JANUARY 2013

December 2012 Groundwater Monitoring Report

Lincoln County Class IV Asbestos Landfill Lincoln County, Montana

Prepared For:

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Rapid Response Program

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Acronyms

AMSL above mean sea level

C degrees Celsius

CDM Camp Dresser & McKee, Inc.
COD chemical oxygen demand

CRQL contract required quantitation limit

DEQ Montana Department of Environmental Quality

DRO diesel range organics

DTW depth to groundwater surface

EPH extractable petroleum hydrocarbon method

GRO gasoline range organics

GW groundwater

The analyte was positively identified, however the concentration is an

estimated value.

MDL method detection limit mg/L milligrams per liter MW monitoring well

Non Deg Montana DEQ nondegradation rules (17.30.701 et seq. Administrative Rules

of Montana (ARM))

ND Non Detect- the result was less than the RDL

NM not measured

NTU nephelometric turbidity units

PBS&J Post, Buckley, Schuh & Jernigan, Inc.

RDL reported detection limit
RDP relative percent difference
QAPP quality assurance project plan
SAP sampling and analysis plan
SOP standard operating procedures

SU standard units
TOC top of well casing

U The analyte was tested for, but not detected; the associated numerical value is

at or below the reporting limit.

VOC volatile organic compounds

VPH volatile petroleum hydrocarbon method

μg/L micrograms per liter

μS/cm microsiemens per centimeter



Introduction

The following is a summary of the groundwater monitoring data resulting from samples collected at the Lincoln County Class IV Asbestos Landfill (Class IV Asbestos Landfill) on December 18 and December 20, 2012. The landfill is located in the NE ¼ of Section 28, Township 31 North, Range 31 West in Lincoln County, adjacent to the Lincoln County Class II Landfill (Class II Landfill facility); approximately 2 miles north-northwest of Libby, Montana (see Figure 1-1). Groundwater monitoring is conducted at the Class II Landfill on a semi-annual basis according to permit requirements from the Montana Department of Environmental Quality (DEQ) Solid Waste Program. Groundwater monitoring is conducted at the Class IV Asbestos Landfill on a semi-annual basis per the Lincoln County Class IV Asbestos Landfill Operations Plan (Operations Plan) dated February 2008 (CDM, 2008).

Monitoring wells CDM-MW7 and CDM-MW8 were installed at the Class IV Asbestos Landfill by CDM in 2002. Monitoring wells MW-2, MW-3, and MW-4 were installed between 1990 and 1993 at the adjacent Class II Landfill Facility, located immediately east of the Class IV Asbestos Landfill. CDM-MW7 is upgradient of the Class IV facility and CDM-MW8 is cross-gradient with both being upgradient of the Class II landfill. MW-3 is downgradient of the Class IV landfill and cross-gradient of the Class II landfill. MW-2 and MW-4 are downgradient of the Class II landfill (see Figure 2-1).

Data from CDM-MW7 and CDM-MW8 consist of depth to groundwater measurements, field measurements of groundwater quality parameters, and laboratory analytical results from groundwater samples collected by CDM Smith on December 18 and 20, 2012. Data for CDM-MW7 and CDM-MW8 were collected following sampling and measurement protocols described in the Lincoln County Class IV Asbestos Landfill Operation Plan (CDM 2008). The depth to groundwater for all wells, including the county wells, were measured on January 16, 2013 because the county wells could not be accessed during the CDM Smith water quality sampling event due to weather and road conditions. An electronic sounder was used to measure the depth to groundwater at all wells, as required by the Lincoln County Class IV Asbestos Landfill Operation Plan for wells CDM-MW7 and CDM-MW8, and the Lincoln County Class II Sampling and Analysis Plan (SAP) for wells MW-2, MW-3, and MW-4.



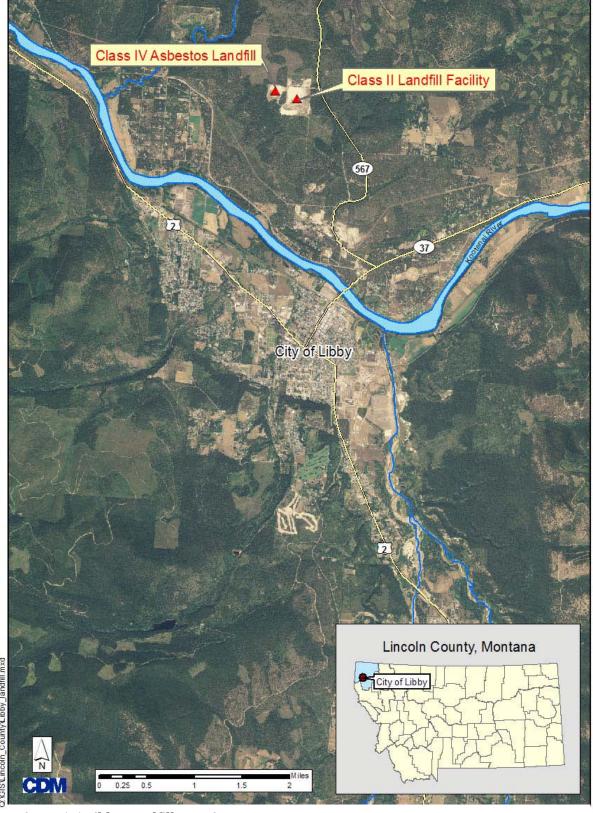


Figure 1-1 Libby Landfill Location.



Field Activities

2.1 Water Level Measurements

The depths to groundwater in CDM-MW7, CDM-MW8, MW-3, and MW-4 were measured by CDM Smith on January 16, 2013 (Table 2-1).

Table 2-1 Depth to Groundwater and Groundwater Elevations, January 16, 2013. Lincoln County Class II Landfill and Class IV Asbestos Landfill

Monitoring Well	TOC Elevation (feet amsl)	DTW (feet below TOC)	GW Elevation (feet amsl)
CDM-MW7	2422.10	220.10	2202.00
CDM-MW8	2414.7	227.09	2187.61
MW-2	2313.02	165.83	2147.19
MW-3	2343.07	203.47	2139.6
MW-4	2294.52	156.96	2137.56

Note:

TOC = top of well casing

GW = Groundwater

DTW = depth to groundwater surface

NM = not measured - new pump housing

amsl = above mean sea level

2.2 Groundwater Sample Collection

Groundwater samples were collected from CDM-MW7 and CDM-MW8 following CDM Smith standard operating procedures (SOP) for purging and groundwater sample collection. Purging and sample collection were completed using a GrundfosTM submersible pump. After collecting samples from CDM-MW7 and during purging activities for CDM-MW8, the Grundfos pump malfunctioned and could not complete the sampling activities; therefore, CDM-MW8 and its duplicate sample were collected on December 20, 2012 while CDM-MW7 samples were collected on December 18, 2012. Samples were analyzed for all DEQ Solid Waste Program ARM 17.50.708 (16) (b) Table 1 analytes, including volatile organic compounds (VOC), chloride, total cyanide, nitrate/nitrite as nitrogen, sulfate, dissolved metals, chemical oxygen demand (COD), Volatile Petroleum Hydrocarbons (VPH), and Extractable Petroleum Hydrocarbons (EPH). All samples were submitted under chain-of-custody protocol and analyzed by CompuChem Laboratories in Cary, North Carolina. Additionally, groundwater samples were analyzed for asbestos by EMSL Analytical, Inc. in Libby, Montana.

Quality control samples consisted of a trip blank, a field blank, and one duplicate field sample. The validated laboratory analytical sample results are provided in Appendix B. Field logs from CDM smith are included in Appendix C.

A potentiometric surface map was constructed using the groundwater level measurements collected on January 16, 2013 (Figure 2-1). Due to the poor site conditions in December, several of the wells in the Class II landfill were not able to be accessed and water levels were measured during the County's



sampling event on January 16, 2013. The potentiometric surface shows that the groundwater flow direction is to the southeast, which is consistent with previous reports.

2.3 Field Water Quality Parameters

Groundwater quality parameters were measured during monitoring well purging of CDM-MW7 and CDM-MW8 with a calibrated YSI 556 Multi-parameter water quality meter. Water quality parameters are presented in Table 2-2 and include pH, specific conductance, turbidity, dissolved oxygen, and temperature. Field parameter and static water levels measured during purging prior to sampling are included in Appendix C – Water Sampling Logs. Parameter in both wells stabilized before sampling.

Table 2-2 Water Quality Monitoring Parameters, December 18 and 20, 2012. Lincoln County Class IV Asbestos Landfill

Monitoring Well	pH (SU)	Specific Conductance (μS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)
CDM-MW7	7.87	312	5.24	0.97	12.2
CDM-MW8	7.69	412	9.83	3.73	16.9

Note:

SU = standard units

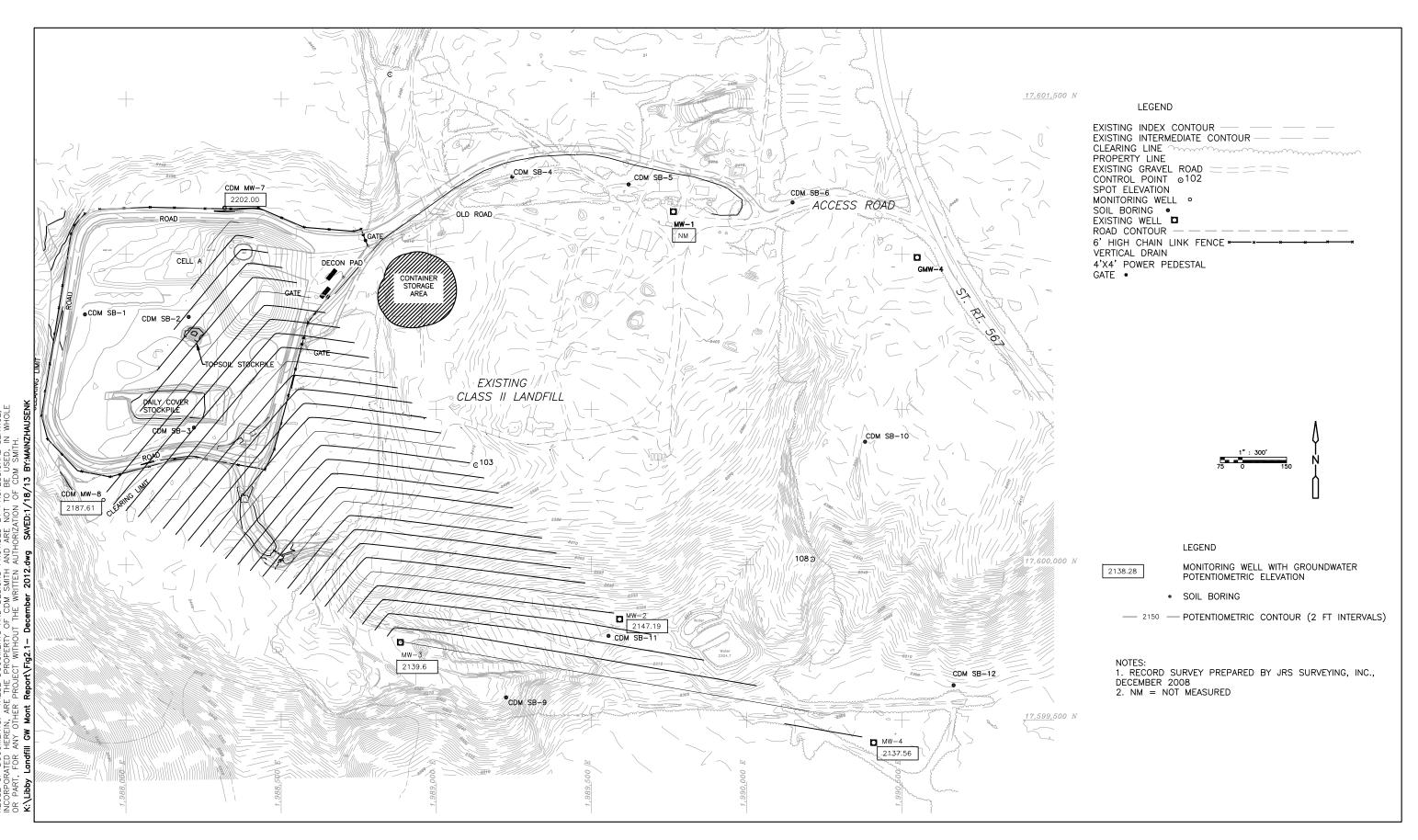
 $\mu S/cm = microsiemens per centimeter$

NTU = nephelometric turbidity unit

mg/L = milligram per liter

°C = degree Celsius







Analytical Results

3.1 Laboratory Analytical Results

Table 3-1 lists laboratory analytical results for monitoring wells CDM-MW7 (sample 1R-44817) and CDM-MW8 (sample 1R-45180) and corresponding Montana Circular DEQ-7 water quality standards. Analytical results for these groundwater samples and associated quality control samples are located in Appendix B. Quality control samples include a field duplicate of CDM-MW8 (sample 1R-44819), two trip blanks (sample TB-1 and TB-2), and a field blank (sample 1R-44818). Table 3-1 lists the groundwater quality standard as "nondegradation" (Non Deg) for parameters for which human health standards are not listed in Montana Circular DEQ-7.

Non-Metals

Non-metals detected at or above the laboratory reporting limits but below the Montana Circular DEQ-7 water quality standard include nitrate and sulfate. Cyanide was not detected in either groundwater sample, with a reporting limit of 0.010 mg/L.

The samples from both locations were also analyzed for asbestos by U.S. Environmental Protection Agency Method 100.2. Asbestos was not detected in the samples.

Metals

Groundwater analyses for metals at monitoring wells MW-2, MW-3, and MW-4 were eliminated after the December 2003 sampling event per DEQ's direction (based on the long record of generally below detection metal concentrations), so no comparisons to metals results from the Class II Landfill can be made.

There were no metals detected in CDM-MW7 and CDM-MW8 at or above the laboratory reporting limit, except for arsenic in CDM-MW7 during the December 2012 sampling event.

Volatile Organic Compounds

Acetone, chloromethane and toluene were reported in monitoring well CDM-MW8. Acetone results were qualified as undetected, "U", because acetone was reported in the field blank at 44 μ g/L, and in one trip blank at 3.0 μ g/L.



Table 3-1
Groundwater Analytical Results, December 18 and 20, 2012.
Lincoln County Class IV Asbestos Landfill

Rearmeter CDM-MWZ (rg/L) CDM-MWZ (rg/L) RL (rg/L) MT Groundwater Quality Standards (rg/L) Non-Metals Asbestos ND ND ND 0.17 MFL 7,000,000 fibers/L (fibers-10 microns) Chemical Oxygen Demand ND ND ND 1,000 4,000 Cyanide, Total ND ND ND 10 200 Nitrate/Nitrite as N ND ND 50 10,000 250,000 Gasoline Range Organics ND ND ND Non Deg (DEQ uses volatile petroleum hydrocarbon (VPH) method) Diesel Range Organics ND ND ND Non Deg (DEQ uses volatile petroleum hydrocarbon (VPH) method) Metals ND ND ND Non Deg (DEQ uses volatile petroleum hydrocarbon (VPH) method) Metals ND ND <th></th> <th>Monitoring Well</th> <th>Monitoring Well</th> <th></th> <th></th>		Monitoring Well	Monitoring Well		
Non-Metals	Parameter			RL (μg/L)	MT Groundwater Quality Standards (μg/L)
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Chemical Oxygen Demand ND ND 17,000 Non Deg Chloride ND ND 1,000 4,000 Cyanide, Total ND ND 10 200 Nitrate/Nitrite as N ND ND 50 10,000 Sulfate 5,410 6,090 1,000 250,000 Gasoline Range Organics ND ND 30 Non Deg (DEQ uses volatile petroleum hydrocarbon (VPH) method) Diesel Range Organics ND ND 500 Non Deg (DEQ uses extractable petroleum hydrocarbon (VPH) method) Metals ND ND ND 500 Non Deg (DEQ uses extractable petroleum hydrocarbon (VPH) method) Metals ND ND ND 10 10 Arsenic ND ND 1.0 6 Arsenic ND ND 1.0 4 Barium ND ND 1.0 4 Cadmium ND ND 1.0 5 Chromium ND ND 1.0 <td< td=""><td>Non-Metals</td><td></td><td></td><td></td><td></td></td<>	Non-Metals				
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Nitrate/Nitrite as N	Chloride	ND	ND	1,000	4,000
Sulfate 5,410 6,090 1,000 250,000 Gasoline Range Organics ND ND 30 Non Deg (DEQ uses volatile petroleum hydrocarbon [VPH] method) Diesel Range Organics ND ND 500 Non Deg (DEQ uses extractable petroleum hydrocarbon [EPH] method) Metals ND ND 2.0 6 Antimony ND ND 1.0 10 Barium ND ND 1.0 10 Barium ND ND 2.00 6 Beryllium ND ND 1.0 4 Cadmium ND ND 1.0 4 Cadmium ND ND 1.0 5 Chromium ND ND 1.0 10 Cobalt ND ND 1.0 10 Cobalt ND ND 5.0 1,300 Iron ND ND 5.0 1,300 Iron ND ND 5.0 1,300 <t< td=""><td>Cyanide, Total</td><td>ND</td><td>ND</td><td>10</td><td>200</td></t<>	Cyanide, Total	ND	ND	10	200
Gasoline Range Organics ND ND 30 Non Deg (DEQ uses volatile petroleum hydrocarbon [VPH] method) Diesel Range Organics ND ND 500 Non Deg (DEQ uses extractable petroleum hydrocarbon [EPH] method) Metals ***********************************	Nitrate/Nitrite as N	ND	ND	50	10,000
Page Page	Sulfate	5,410	6,090	1,000	250,000
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Bromodichloromethane ND ND 0.50 10 Bromoform ND ND 0.50 80 Bromomethane ND ND 0.50 10 Carbon disulfide ND ND 0.50 Non Deg	Benzene	ND	ND	0.50	5
BromoformNDND0.5080BromomethaneNDND0.5010Carbon disulfideNDND0.50Non Deg	Bromochloromethane	ND	ND	0.50	Non Deg
Bromomethane ND ND 0.50 10 Carbon disulfide ND ND 0.50 Non Deg	Bromodichloromethane	ND	ND	0.50	10
Carbon disulfide ND ND 0.50 Non Deg	Bromoform	ND	ND	0.50	80
-	Bromomethane	ND	ND	0.50	10
Carbon tetrachloride ND ND 0.50 3	Carbon disulfide	ND	ND	0.50	Non Deg
	Carbon tetrachloride	ND	ND	0.50	3



Parameter	Monitoring Well CDM-MW7 (μg/L)	Monitoring Well CDM-MW8 (μg/L)	RL (μg/L)	MT Groundwater Quality Standards (μg/L)
Chlorobenzene	ND	ND	0.50	100
Chlorodibromomethane	ND	ND	0.50	4
Chloroethane	ND	ND	0.50	Non Deg
Chloroform	ND	ND	0.50	70
Chloromethane	ND	0.83	0.50	30
1, 2-Dibromo-3- Chloropropane (DBCP)	ND	ND	0.50	0.2
1, 2-Dibromoethane (EDB)	ND	ND	0.50	0.004
Dibromomethane	ND	ND	0.50	Non Deg
1, 2-Dichlorobenzene	ND	ND	0.50	600
1, 4-Dichlorobenzene	ND	ND	0.50	75
trans-1, 4-Dichloro-2- butene	ND	ND	2.0	Non Deg
Dichlorodifluoromethane	ND	ND	0.50	1,000
1, 1-Dichloroethane	ND	ND	0.50	0.0031
1, 2-Dichloroethane	ND	ND	0.50	4
1, 1-Dichloroethene	ND	ND	0.50	0.6
cis-1, 2-Dichloroethene	ND	ND	0.50	70
trans-1, 2-Dichloroethene	ND	ND	0.50	100
1, 2-Dichloropropane	ND	ND	0.50	5
cis-1, 3-Dichloropropene	ND	ND	0.50	4
trans-1, 3- Dichloropropene	ND	ND	0.50	2
Ethylbenzene	ND	ND	0.50	700
2-Hexanone (Methyl butyl ketone)	ND	ND	2.5	Non Deg
lodomethane	ND	ND	0.50	Non Deg
4-Methyl-2-pentanone (Methyl isobutyl ketone)	ND	ND	2.5	Non Deg
Methylene chloride	ND	ND	0.50	5
Styrene	ND	ND	0.50	100
1, 1, 1, 2- Tetrachloroethane	ND	ND	0.50	Non Deg
1, 1, 2, 2- Tetrachloroethane	ND	ND	0.50	2
Tetrachloroethene	ND	ND	0.50	5
Toluene	ND	0.55	0.50	1,000
1, 1, 1-Trichloroethane	ND	ND	0.50	200
1, 1, 2-Trichloroethane	ND	ND	0.50	3
Trichloroethene	ND	ND	0.50	5
Trichlorofluoromethane	ND	ND	0.50	10,000
1, 2, 3-Trichloropropane	ND	ND	0.50	Non Deg
Vinyl acetate	ND	ND	1.0	Non Deg
Vinyl chloride	ND	ND	0.50	0.2
Xylenes	ND	ND	0.50	10,000



Note: **Non Deg** refers to Montana DEQ nondegradation rules (17.30.701 et seq. Administrative Rules of Montana (ARM). The purpose of the rule is to protect high quality state ground and surface waters, which are those waters whose quality is higher than the established standards.

The Montana Circular DEQ-7 water quality standards for acrylonitrile and 1, 2-Dibromoethane are below the laboratory reporting limit. The water quality standards for these compounds are lower than standard laboratory limits, and the required reporting value listed in the circular are also greater than the water quality standard.

Notes:

ND = Not Detected. Result was less than the laboratory reporting limit.

MFL = million fibers/Liter

RL = reporting limit

U = undetected at the concentration listed

3.2 Quality Assurance

Holding times, surrogate recoveries, and laboratory duplicate analysis were acceptable for all samples. Data were evaluated in accordance with the method requirements and the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (EPA 2008) and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (EPA 2010). The analysis of the samples was found to be compliant with the requirements of both the method and the QAPP. All data was found to be usable. The data evaluation report and corresponding data is included in Appendix B.

One field blank (sample 1R-44818) was prepared in the field by pouring distilled water into preserved sampling container during this sampling event. Acetone was reported in the field blank, at 44 μ g/L. Acetone was reported in the samples at concentrations greater than the reporting limit but less than the level reported in the field blank. Acetone results have been qualified in the samples as undetected at the level reported.

Trip Blanks

Two trip blanks were collected for this sampling event. The trip blanks were only tested for VOCs. Acetone was reported in one trip blank at $3.0 \,\mu\text{g/L}$.

Field Blank

One field blank was collected for this sampling event to assess the decontamination procedure. Chemical Oxygen Demand (COD) was reported in all samples, none higher than the field blank at $17000~\mu g/L$. It does not seem likely that the decontamination procedure introduced organics to the organic free/analyte free decontamination water. As COD falls under the non-degradation rules, the results for the samples were reported as not detected at the level reported in the field blank, $17,000~\mu g/L$, instead of the standard reporting limit of $10,000~\mu g/L$.

Field Duplicate Samples

Field duplicates are collected to assess field and laboratory precision. One field duplicate sample was collected from monitoring well CDM-MW8 (sample 1R-44819) and submitted for analysis with the natural samples. Detected results, above the laboratory reporting limits, are compared to the parent sample in Table 3-2.



Table 3-2 CDM-MW8 Duplicate Sample Comparison, December 2012. Lincoln County Class IV Asbestos Landfill

Parameter	CDM-MW8	Duplicate	RL	RPD	Control Limit
Non-Metal (ug/L)					
Acetone	6.9U	7.6U	2.5	NA	20 RPD
Chloromethane	0.83	0.91	0.50	NA	20 RPD
Toluene	0.61	0.61	0.50	NA	20 RPD
Sulfate	6,090	6,060	1,000	0.5%	20 RPD

Note:

RL = Reporting Limit

RPD = Relative Percent Difference

NA= not applicable, concentrations less than 5 times the RL

Field duplicate data quality objectives are not specified in the Lincoln County Class IV Asbestos Landfill Operations Plan. Laboratory duplicate criteria, according to the EPA's Contract Laboratory Program, is ± 20 relative percent difference when the concentration is greater than five times the reporting limit. The reporting limit is used as the criteria for the difference between the two results if either value is <5x the reporting limit. All duplicate comparisons met this criterion.



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Deviations from SAP

There were no deviations from the Sampling and Analysis Plan reported during the December 2012 sampling event.



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Data Analysis

5.1 Intra-well Trends

Groundwater Levels

A summary chart of historical groundwater elevations graphed on Chart 1- Appendix A does not show any trends.

Data from the December 2012 sampling event indicate that groundwater elevations decreased slightly in CDM-MW7, CDM-MW8, MW-3 and MW-4 when compared to elevations from the June 2012 sampling event. Monitoring well MW-2 was not measured during the June 2012 sampling event (See Chart 1.)

Field Parameters

Field parameters (pH, specific conductance, dissolved oxygen, and temperature) were measured for CDM-MW7 and CDM-MW8 during the field activities by CDM Smith. No trends could be identified for pH and specific conductance. Temperature measurements at CDM-MW8 seem higher than expected which could be attributed to the difficulties encountered in the field during the sampling activities. The pump appears to be at the limit of its capacity and heading the water as it pumps it to the surface (See Charts 2, 3, 4 and 5.) EPA is in the process to evaluate the installation of dedicated pumps to improve efficiency. Dissolved oxygen seems to be decreasing when only comparing the winter or summer results. Charts showing the collected field parameters are included in Appendix A.

Dissolved Metals

There were no metals above the DEQ-7 Standard during this sampling event; therefore, no trend evaluation is presented.

Detected Non-Metals

There were no parameters that consistently had detectable results over multiple sampling events; therefore, no trend evaluation is presented.

5.2 Inter-well Comparison

Water levels and field parameters were compared in both monitoring wells. Dissolved oxygen was lower in CDM-MW7 compared to CDM-MW8. Temperature in CDM-MW8 has increased in the December 2011 and June 2012 events but slightly decrease during this event when compared to CDM-MW7 which is decreasing.

The December 2012 groundwater flow direction at the Class IV Asbestos Landfill was evaluated using depth to groundwater measurements from five monitoring wells. The groundwater flow direction is shown in Figure 2-1 and is generally to the southerly direction. The interpreted groundwater flow direction is consistent with previous reports.



5.3 Comparison to Standards

During this sampling event, no exceedances were reported for dissolved metals, non-metals, or VOCs (See Table 3-2).

5.4 Summary

Results of the December 2012 sampling event showed no exceedances for dissolved metals, non-metals or VOCs when compared to the Montana Circular DEQ-7 water quality standards. In addition, no trends were identified for the evaluated parameters in the last five sampling events.



References

Camp Dresser & McKee, Inc. 2008. *Draft Revised Lincoln County Class IV Asbestos Landfill Operations Plan.* February.

CDM, Inc. 2012. June 2012 Groundwater Monitoring Report, Lincoln County Class IV Asbestos Landfill, Lincoln County, Montana. August.

EPA. 2010. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review.* EPA–540/R–10/011. January.

EPA. 2008. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review.* EPA–540/R–08/01. June.

Montana Department of Environmental Quality. 2006. *Circular DEQ-7, Montana Numeric Water Quality Standards*. February.



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Appendix A

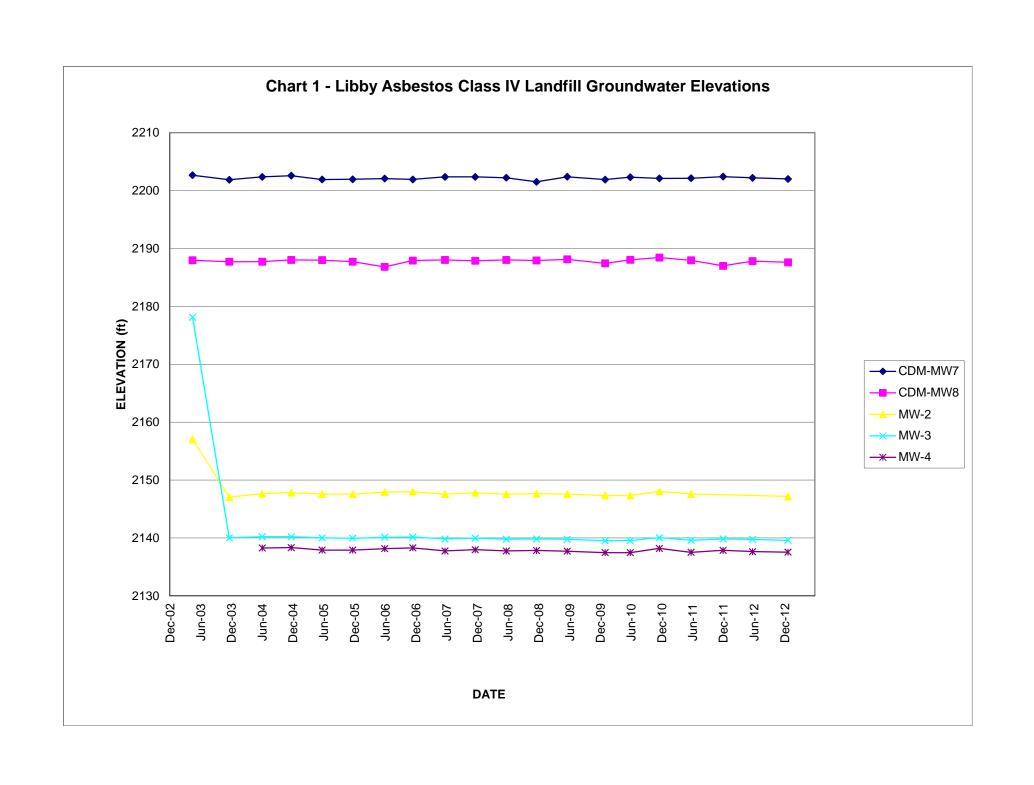


Chart 2 - Libby Asbestos Class IV Landfill - pH

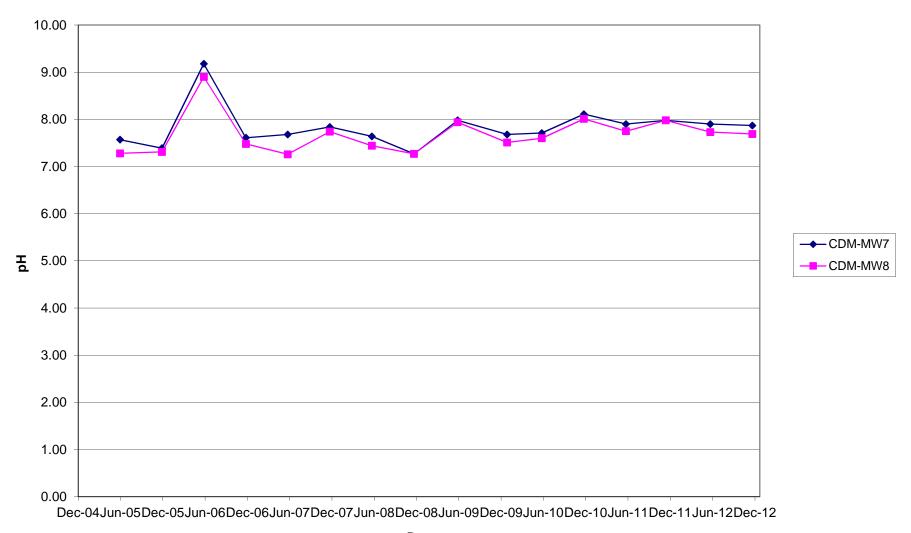


Chart 3 - Libby Asbestos Class IV Landfill - Specific Conductivity

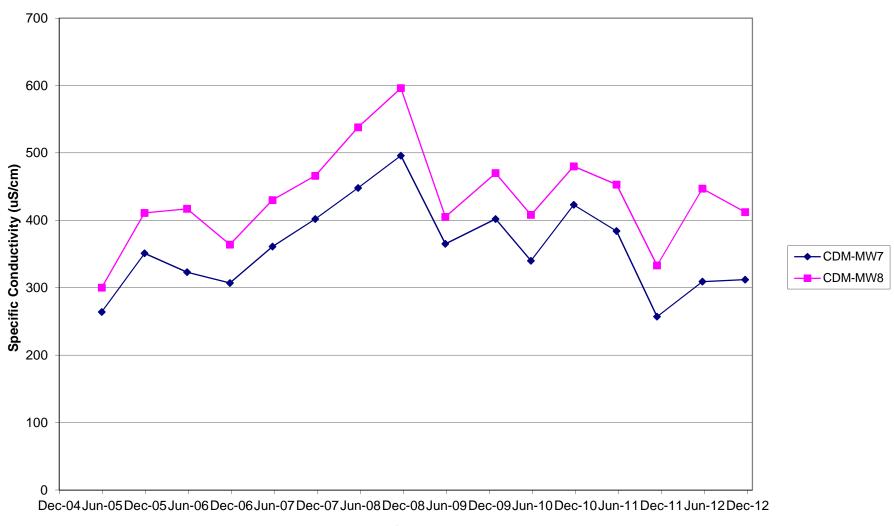


Chart 4 - Libby Asbestos Class IV Landfill - Temperature

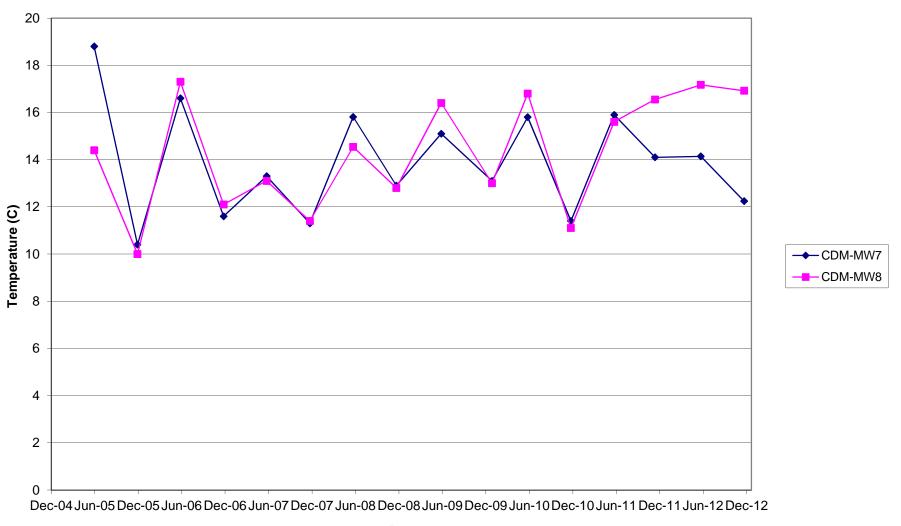
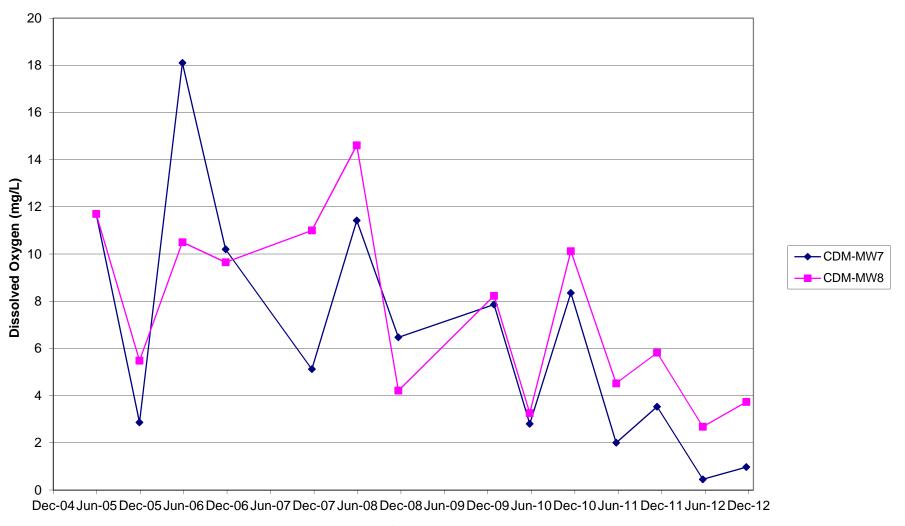


Chart 5- Libby Asbestos Class IV Landfill - Dissolved Oxygen



Appendix B

DATA EVALUATION REPORT

Project: Lincoln County Groundwater Sampling

Data Validator: Kimberly Zilis

Sample Delivery Group: 1212075 and 1212077
Laboratory: Compuchem, Cary, NC
Sample Date: December 18 and 19, 2012

Evaluation Date: January 9, 2013

On December 18 and 19, 2012, CDM Federal Programs Corporation (CDM Smith) collected groundwater samples in support of the Lincoln County semiannual groundwater monitoring program. Two water samples, one field duplicate, a field blank and two trip blanks were delivered to Compuchem on December 20 and 21, 2012. The volatile petroleum hydrocarbons, extractable petroleum hydrocarbons, and chemical oxygen demand were subcontracted to ENCO laboratories.

CDM evaluated the data received in accordance with the method requirements and the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (EPA 2008) and the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (EPA 2010). The samples were analyzed according to the following methods:

Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (SW-846). Third Edition, Final Update III

- 8260B Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)
- 6010C Inductively Coupled Plasma-Atomic Emission Spectrometry
- 6020A Inductively Coupled Plasma-Mass Spectrometry
- 7470A Mercury in Liquid Waste (Manual Cold-Vapor Technique)
- 9010C and 9012B Total and Amenable Cyanide: Distillation

Methods for Chemical Analysis of Water and Wastes, 3rd Edition, March 1983

- 300.0 Determination of Inorganic Anions in Drinking Water by Ion Chromatography
- 353.2 Nitrogen, Nitrate-Nitrite

Standard Methods for the Examination of Water and Wastewater, 21st Edition, 2005

■ SM5220D - Chemical Oxygen Demand (COD)

Massachusetts Department of Environmental Protection Division of Environmental Analysis, May 2004

- Method for the Determination of Volatile Petroleum Hydrocarbons (VPH)
- Method for the Determination of Extractable Petroleum Hydrocarbons (EPH)

The field samples and corresponding laboratory sample identifiers included in this package are as follows:

INDEX ID	FIELD ID	LABORATORY SAMPLE ID	MATRIX
IR-44817	CDM-MW-7	1212075-01	Water
IR-45180	CDM-MW-8	1212075-04	Water
IR-44819	CDM-MW-8 Dup	1212075-05	Water
IR-44818	Field Blank	1212075-02	Water
TB-1	Trip Blank	1212075-03	Water
TB-2	Trip Blank	1212075-06	Water

REVIEW SUMMARY

I. Deliverables

All deliverables were present.

YES

Comments: A full raw data package was not required. Sample results and laboratory Quality Control (QC) results were submitted by the laboratory and evaluated by CDM.

II. Preservation and Holding Times

Samples were preserved appropriately and all holding times were met.

YES

III. Instrument Calibration

Calibration documentation was not provided for review.

IV. Method Blank Analysis Results

No target compounds were detected in the method blank at or above the reporting limit. YES

V. Other Blank Analysis Results

No target compounds were detected in other blanks at or above the reporting limit. NO

Comments: A field blank was created in the field consisting of distilled water and was analyzed as a sample for the full suite of analyses. Trip blanks traveled with the volatile samples for each shipment, and was analyzed for volatile compounds only. Acetone was reported in the field blank, at 44 μ g/L. Acetone was reported in TB-1 at 3.0 μ g/L in the December 18th trip blank and no target compounds were reported in the December 19th trip blank.

The chemical oxygen demand (COD) for the field blank was 17 mg/L with a reporting limit of 10 mg/L. The method blank was less than 10 mg/L. One field blank was collected for this sampling event to assess the decontamination procedure. COD was reported in all samples, none

higher than the field blank at 17 mg/L. It does not seem likely that the decontamination procedure introduced organics to the organic free/ analyte free decontamination water. As COD falls under the non-degradation rules, the results for the samples were reported as not detected at the level reported in the field blank, 17,000 μ g/L, instead of the standard reporting limit of 10,000 μ g/L. Analyzing the field blank water, without the decontamination procedure, should be considered for the next sampling event.

VI. Surrogate Compound Results

All surrogate compound recovery results met laboratory defined QC criteria NO

Comments: The recovery of surrogate 2-bromonaphthalene in the EPH fractionation was below criteria in sample 1R-45180. There were no hydrocarbons reported in any of the fractions, in any of the samples. The absence of total hydrocarbons suggests the samples did not require fractionation, and this surrogate is a fractionation surrogate only. The method reporting limits are 5 times lower than the action limit and the results have been reported as not detected (ND) without qualification.

VII. <u>Matrix Spikes/Matrix Spike Duplicates (MS/MSDs)</u>

Matrix Spike analyses were performed at a frequency of not less than 5% of sample analyses. All MS/MSD results met specified recovery and precision limits. NO

Comments: The MSD recovery for cyanide was 73.1%, below the recovery criteria of 75-125%. The relative percent difference (RPD) between the cyanide MS and MSD recoveries was 25.2%, above the 20% criteria. The results for cyanide have been qualified as estimated

VIII. Field Duplicates

Field duplicates were collected at a frequency of not less than 5% of sample analyses. The RPD between the native sample and the field duplicate was less than 20% when the values were greater than 5 times the reporting limit. When either the parent or the duplicate value is less than 5 times the reporting limit, the reporting limit is control limit for the difference between the two values.

YES

Comments: Index ID IR-44819 is a field duplicate of IR-45180.

IX. Laboratory Control Sample

Target analytes were spiked into a Laboratory Control Sample (LCS) and recoveries were within the laboratory defined control limits.

YES

X. Laboratory Duplicates

Laboratory duplicates were performed and recoveries were within the laboratory defined control limits.

YES

XI. Detection Limits

All detection limits met specified reporting limits. YES

XII. Overall Assessment of Data

The analyses of the samples were found to be compliant with the requirements of both the method and the QAPP, except where otherwise noted. No qualification was necessary based on overall system performance.

YES



CHAIN OF CUSTODY

501 Madison Ave.

Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

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Liberty Analytical Corp.

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Committee N

(Lab Use)

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Relinquished by:

Sample Order Entry By:

Relinquished by:

Subcontact? Y or N If yes, where?

City

Project Name

Sampling Location

Turnaround time

Collection

Time

Matrix

(BW

1.3516W

Date

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Batch QC or Project Specific? If Specific, which Sample 1D?

Are high concentrations expected? Y or N? If yes, which ID(s)?

Cyanide samples checked for sulfide & chlorine? Y or NA

625 & Phenol samples checked for chlorine? Y or NA

608 samples checked for pH between 5.0-9.0? Y or NA

|Date/Time: /2/2,

Date/Time:

Number of Preserved Bottles

H2S04 HN03

MEOH

0

0

Are aqueous samples field filtered for metals?(Y)or N

of

bottles

59923

Field ID

CHAIN OF CUSTODY

26583

501 Madison Ave.

Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

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On Ice? Y or N

Received by:

Received by:

Custody Seal(s) intact? Y or N

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Samples stored 60 days after date report mailed at no extra charge.

Samples Received in Good Condition? Y or N

White & Yellow copy to lab . Pink copy for customer

Cooler Temp:

CDM Smith - Libby Field Office

CHAIN OF CUSTODY RECORD

Priority # H-8

No: 23364

From: 60 Port Blvd Ste 201, Libby MT 59923

Libby Asbestos Investigation EPA Region 8

Send To: EMSL27

AirBill: NA

CarrierName: hand delivered

107 W 4th Street

No of Samples: 4

DateShipped: 12/21/2012

Libby, MT 59923

	Sample #	Tag	Sample Date	Matrix	Vol/L Area/cm2	Filter Pore Size (um)	TAT Days	Analyses L'	.V ID	Media Code	Comments	
	1R-44817	AL1	12/18/2012	Water			3	TEM-ISO		Α		1
	1R-44818	AL1	12/19/2012	Water			3	TEM-ISO		Α		1
NA PART	1R-44819	AL1	12/20/2012	Water			3	TEM-ISO		Α		100
	1R-45180	AL1	12/20/2012	Water			3	TEM-ISO		Α		سما

Special Instructions: LCLGW1211-Rev 0
SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

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Date/Time Received by (Signature and Company)

Date/Time Sample Condition Upon Receipt

District 12/21/12

Date/Time Sample Condition Upon Receipt

District 12/21/12

Date/Time Sample Condition Upon Receipt

District 12/21/12

District 12

INTERNAL CHAIN OF CUSTODY

12/21/2012 5:57:58 PM

Order ID: 271201194

Phone: (303) 312-7725

Doug Kent Attn:

TechLaw, Inc.

ESAT Region 8 16194 W. 45th Drive

Golden, CO 80403

Fax:

23364 Project:

Samples collected 12/18,19,20/2012

Customer ID:

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Received:

12/21/12 10:35 AM

EMSL Order: EMSL Proj ID:

271201194 Libby

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Final Package R	Received;	Date:	Date Package Review Date:
			Date Package Mailed: Date:
Special Instruct	ione		

Order ID	Lab Sample #	Cust. Sample #	Location	Due Date
271201194	271201194-0001	1R-44817		12/26/2012 10:35:00 AM
271201194	271201194-0002	1R-44818		12/26/2012 10:35:00 AM
271201194	271201194-0003	1R-44819		12/26/2012 10:35:00 AM
271201194	271201194-0004	1R-45180		12/26/2012 10:35:00 AM

2712-UB-125 (O-S)

CDM Smith - Libby Field Office

CHAIN OF CUSTODY RECORD

No: 23364 Priority # H-8

From: 60 Port Blvd Ste 201, Libby MT 59923

Send To: EMSL27

AirBill: NA

Libby Asbestos Investigation EPA Region 8 CarrierName: hand delivered

107 W 4th Street

No of Samples: 4

DateShipped: 12/21/2012

271201194

Libby, MT 59923

Sample #	Tag Sample Date	Matrix	Vol/L Filter Pore Area/cm2 Size (um)		Analyses	LV ID	Media Code	Comments
1R-44817	AL1 12/18/2012	Water	,	3	TEM-ISO		A	
/ 1R-44818	AL1 12/19/2012	Water		3	TEM-ISO		Α	
1R-44819	AL1 12/20/2012	Water		3	TEM-ISO		Α	
1R-45180	AL1 12/20/2012	Water		3	TEM-ISO		Α	

Special Instructions: LCLGW1211-Rev 0

SAMPLES TRANSFERRED FROM **CHAIN OF CUSTODY #**

Relinquished by (Signature and Company)

Date/Time Received by (Signature and Company)

Date/Time Sample Condition Upon Receipt

2. Haugen-construct 12/21/12 10:35 //m / 2/2/12 1035 CK ACCEPT



EMSL Analytical, Inc.

107 West 4th Street Libby, MT 59923

Phone/Fax: (406) 293-9066 /

http://www.emsl.com / mobileasbestoslab@emsl.com

EMSL Order ID: Customer ID:

271201194 TECH25

Customer PO: Project ID:

Libby

Attn: Doug Kent

TechLaw, Inc. ESAT Region 8

16194 W. 45th Drive Golden, CO 80403 Phone:

(303) 312-7725

Fax:

Collected:

12/18/2012 - 12/20/2012

Received: Analyzed: 12/21/2012 12/26/2012

Proj: 23364

Samples collected 12/18, 19, 20/2012 (Libby)

Test Report: Determination of Asbestos Structures ≥ 0.5 μm & > 10μm in Drinking Water Performed by the 100.2 Method (EPA 600/R-94/134)

						AS	BESTOS		
Sample Filtration	Original Sample Vol. Filtered	Effective Filter	Area Analyze	 d	Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration	Confidence Limits
Daterinite	(ml)	(mm²)	(mm²)	_			MFL	(million fibers per	· liter)
12/21/2012	100	1295	0.0780	≥ 0.5	None Detected	ND	0.17	<0.17	0.00 - 0.61
01:00 PM				рин					
				> 10 µm only	None Detected	ND	0.17	<0.17	0.00 - 0.61
12/21/2012	100	1295	0.0780	≥ 0.5	None Detected	ND	0.17	<0.17	0.00 - 0.61
01:00 PM				μm					
				> 10 µm only	None Detected	ND	0.17	<0.17	0.00 - 0.61
12/21/2012	100	1295	0.0780	≥ 0.5	None Detected	ND	0.17	<0.17	0.00 - 0.61
01:00 PM				μm					
				> 10 µm only	None Detected	ND	0.17	<0.17	0.00 - 0.61
12/21/2012 01:00 PM	100	1295	0.0780	≥ 0.5 µm	None Detected	ND	0.17	<0.17	0.00 - 0.61
				> 10 µm only	None Detected	ND	0.17	<0.17	0.00 - 0.61
	Filtration Date/Time 12/21/2012 01:00 PM 12/21/2012 01:00 PM 12/21/2012 01:00 PM	Filtration Date/Time Sample Vol. Filtered (ml) 12/21/2012 100 12/21/2012 100 12/21/2012 100 12/21/2012 100 12/21/2012 100 12/21/2012 100	Filtration Date/Time Sample Vol. Filter Area (ml) Filtered (ml) 12/21/2012 100 1295 12/21/2012 100 1295 12/21/2012 100 1295 12/21/2012 100 1295 12/21/2012 100 1295	Filtration Date/Time Sample Vol. Filter Area (ml) Filter Area (mm²) Area Analyze (mm²) 12/21/2012 01:00 PM 100 1295 0.0780 0.0780 12/21/2012 100 1295 01:00 PM 100 1295 0.0780 12/21/2012 100 1295 01:00 PM 100 1295 0.0780	Filtration Date/Time Sample Vol. Filter Area Analyzed (ml)	Filtration Date/Time Sample Vol. Filter Area Analyzed (mm²) Types	Sample Filtration Date/Time Sample Vol. Filter Area (mm²) Area Analyzed (mm²) Filtered (mm²) None Detected ND	Filtration Date/Time Sample Vol. Filter Area (ml) Filtered (ml) Filtered (mm²) F	Sample Filtration Date/Time Sample Vol. Filter Area Area Filtration Date/Time Filtered (ml) Filtered (ml) 1295 0.0780 ≥ 0.5

Analyst(s)	
Roy Pescador	(4)

R. K. Mahoney, Laboratory Manager or Other Approved Signatory

Any questions please contact Ron Mahoney.

Initial report from: 12/26/2012 14:23:36

Sample collection and containers provided by the client, acceptable bottle blank level is defined as \$0.01MFL>10um. ND=None Detected. This report may not be reproduced, except in full, without written permission by EMSL Analytical, Inc. This report relates only to those items tested. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Libby, MT MT CERT0017

Requirements Revision #: <u>0</u> Effective Date: <u>December 19, 2011</u>

SAP ANALYTICAL SUMMARY # <u>LCLGW1211</u> SUMMARY OF PREPARATION AND ANALYTICAL REQUIREMENTS FOR ASBESTOS

Title: Lincoln County Class IV Asbestos Landfill Operations Plan, Revision 2, Libby Asbestos Project

SAP Date (Revision): February 2008 (Revision 2)

EPA Technical Advisor: Elizabeth Fagen (303-312-6095, fagan.elizabeth@epa.gov); Mike Cirian (406-293-6194, cirian.mike@epa.gov) (contact to advise on DQOs of SAP related to preparation/analytical requirements)

Sampling Program Overview: The objective of the groundwater sampling program is to monitor groundwater during low and high groundwater periods within the perched aquifer using wells located at the Lincoln County Landfill. Two wells, CDM-MW-7 and CDM-MW-8, are sampled during each semi-annual event. Field and laboratory quality control samples are also prescribed in the SAP.

Sample ID Prefix: 1R-

TEM Preparation and Analytical Requirements for Water Samples:

			Preparat	ion Details (a))		A 1: 11 1 1		
Medium Code	Medium, Sample Type	Investi- gative?	Indir With Ashing	ect Prep? Without Ashing	Filter Archive?	Method	Counting/ Recording Rules	Analytical Sensitivity/ Stopping Rules	Applicable Laboratory Modifications (current version of)
A	Water	Yes	No	No	Yes	TEM EPA Method 100.2	All asbestos (b); L: ≥ 0.5 µm (c) AR: ≥ 3:1	Count a minimum of 2 grid openings in 2 grids, then continue counting until one is achieved: i) sensitivity of 200,000 L ⁻¹ is achieved; ii) 100 structures are recorded; or iii) 100 GOs have been examined.	LB-000019, LB-000020, LB-000029, LB-000030, LB-000066, LB-000084, LB-000085

⁽a) Sample and filter preparation should be performed in basic accordance with EPA Method 100.2 (as modified by LB-000020A). Grid preparation should be performed in basic accordance with Section 9.3 of ISO 10312:1995(E).

Laboratory Quality Control Sample Frequencies:

TEM (d): Lab Blank – 4%

Recount Same – 1%

(d) See LB-000029B for selection procedure and QC acceptance criteria

Recount Different - 3% Verified Analysis - 1% Repreparation - 1%

⁽b) If observed, chrysotile structures should be recorded, but chrysotile structure counting may stop after 50 structures have been recorded.

⁽c) Length requirement as modified by LB-000020.

Requirements Revision #: 0 Effective Date: December 19, 2011

Requirements Revision:

Revision #:	Effective Date:	Revision Description
0	12/19/11	N/A
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1.11 A		
4 1 1 1 14		
□ FAISI	Denver Jsign & date	. Frin Orthun 20 December 2011
	Dalytical Laboration LMSL LMSL	0 12/19/11 Lalytical Laboratory Review Sign of Limst Libby sign & date: Limst Libby sign & date: Limst Beltsville sign & date: Lisat sign & date: Dougle Limst Hygeia sign & date: Kyeon REST sign & date: Jeanne

JC hecking the box and initialing above indicates that the laboratory has reviewed and acknowledged the preparation and analytical requirements associated with the specified SAF.

EMSL27 WATER PREPARATION RECORD

Date Received:

EMSL Analytical Inc., Libby, MT EFA (mm²): 1795

Filter Lot #: 16620 ZCC

Prepared by:

Date:

	# 😭	72	c.	ample	Proco	ecina		Filtration					Serial D	ilution				Remaining Volume	
	e a jona	eive ()	3	ample	FIUCE	ssiriy		rittation		-	First Di	lution			Second	Dilution		r Cinaii iii	ig volume
Sample #	Temperature at Receipt (Optional)	Volume Received (Optional)	Processing Date	ΛN	Ozonation	Total Sonication Time	Filtration Date	Volume Filtered	Prepared for Analysis	Vol. of original sample used	Resuspend volume	Volume Filtered	Prepared for Analysis	Vol of 1st Dilution used	Resuspend	Volume Filtered	Prepared for Analysis	Filter Date	Volume
	ů	mL		Y/N	Y/N	min		mL	Y/N	mL	mL	mL	Y/N	mL	mL	mL	Y/N		mL
IR-44817			12/2/12	\mathcal{L}	\mathcal{Y}	1-5	12/12	50	Y										
								100	\bigcirc	anal	1ged	?		•					
1R-44818			12/2/1	У	У	15	12/2/12	SO	У	/									
								100	(7)	analy	ared								
12-4-4819			12/1/2	У	У	15	12/21/12	50	y	/									
								100	(Y)	andy	sel				····				
1R-45180			12/2/12	Y	4	15	12/2//1	50	ý	/	9		·						
/k //			7.70			<u> </u>	/ / / -	100	(T)	maly	ned								
MB					_	_	12/21/12	/CC	V	7	July 1				- <i>i</i>	ļ			
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Filter Type: MCE or PC

Filter Pore Size: 0.2 µm

Backing Filter Pore Size: 5 µm

Laboratory ID:	EMSL27
Instrument	JEOL 100 CX II (27-2)
Voltage (kV)	100
Magnification	19,000 X
Grid opening area (mm²)	0,013
Scale: 1L =	1
Scale: 1D =	1
Primary filter area (mm2)	360
Filter Pore Size (um)	0.2
Filter Status (Analyzed, Overloaded, Damaged, Lost, Cancelled)	Analyzed

EPA Sample Number	1R-4 481-1	Тад	AL1				
Matrix	Water						
Volume (mL) rece	ived (optional)						
Date received by	lab	12/2	1/12				
Lab Job Number		271201194					
Lab Sample Numb	per	271201194-000					
Number of grids p	repared	3					
Prepared by (e.g.	M. Smith)	D. Barney					
Preparation date		12/2	12/218/12				
EPA COC Numbe	23364						
QA Type (Not QC, Re Diff, Reprep, Verified Lab Blank, Interlab)	Hat will						

Analyze	d by (e.g. M. Smith)	R. Pescador
Analysis	date	12/26/12
Analysis	Method	TEM ISO
•	Method SOP (in vith LB-000020)	ISO 10312
Grid stor	age location	2712-LIB-125
Archive : location	filter(s) storage	Cinnaminson
1st	Volume used from primary sample (mL)	
dilution	Total volume after dilution(mL)	
2nd	Volume used from 1st dilution (mL)	
dilution	Total volume after dilution(mL)	,
Volume	applied to filter (mL)	100
Estimate	d particulate loading	15

Recording Rules:					
Minimum Aspect Ratio (cir	rcle one):				
none 3:1	≥ 5:1				
Minimum Length (um):	0.5				
Minimum Width (um):	none				

Stopping Rules	
Target Sensitivity (1/L):	200,000
Max Area Examined (mm²):	
Target # of Structures:	100
v	

Grid	Grid	Structure	No. of Structures		Dimensions		(alamaisia makinin	Mi	neral Class	(see belo	ow)				1 = yes, blank = no		= no	
Gria	Opening	Туре	Primary	Total	Length	Width	Identification	LA	OA	СН	NAM	Mineral Desc	EDXA	Sketch/ Comments	Sketch	Photo	EDS	CH Not Counted
04	G7	nd																
	69	nd																
05	63	nd																
	GI	ral																
06	G4	nd																
	G2	Nd																
		1/2,																
	60	12/26	/2															
				`														

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

CH = Chrysotile

NAM = Non-asbestos material

If sample was analyzed by more than one analyst or across multiple analysis dates, enter analysis details below.

	Analyst #2	Analyst #3
Analyzed by:		
Analysis date:		
Instrument:		

Grid opening traverse direction (circle one):

H Horizontal Vertical

Are prepped grids acceptable for analysis? (circle one) f No, explain:	(%	No

LIBBY TEM Asbestos Structure Count for Water Samples_WaterEDD_13f

Laboratory ID:	EMSL27
Instrument	JEOL 100 CX II (27-2)
Voltage (kV)	100
Magnification	19,000 X
Grid opening area (mm²)	0.013
Scale: 1L =	1
Scale: 1D =	1
Primary filter area (mm2)	360
Filter Pore Size (um)	0.2
Filter Status (Analyzed, Overloaded, Damaged, Lost, Cancelled)	Analyzed

EPA Sample Number	1R-4 4818	Тад	AL1
Matrix	Water		
Volume (mL) rece	ived (optional)		
Date received by	12/2	1/12	
Lab Job Number	271201194		
Lab Sample Numb	271201194-000 2		
Number of grids p	3		
Prepared by (e.g.	M. Smith)	D. Ba	arney
Preparation date	12/2	18/12	
EPA COC Numbe	23364		
QA Type (Not QC, Re Diff, Reprep, Verified Lab Blank, Interlab)	41-st	Of	

Analyzed	d by (e.g. M. Smith)	R. Pescador
Analysis	date	12/26/12
Analysis	Method	TEM ISO
	Method SOP (in vith LB-000020)	ISO 10312
Grid stor	age location	2712-LIB-125
Archive flocation	filter(s) storage	Cinnaminson
1st	Volume used from primary sample (mL)	
dilution	Total volume after dilution(mL)	
2nd	Volume used from 1st dilution (mL)	
dilution	Total volume after dilution(mL)	
Volume a	applied to filter (mL)	/00
Estimate on filter (d particulate loading	,

Recording Rules:	
Minimum Aspect Ratio (cii	rcle one):
none ≥ 3:1	≥ 5:1
Minimum Length (um)	0.5
Minimum Width (um):	none

Stopping Rules:	
arget Sensitivity (1/L):	200,000
fax Area Examined (mm²):	
arget # of Structures:	100
•	

Grid	Grid	Structure	No. of Str	ructures	Dimei	nsions	Identification	Mir	neral Class	(see belo	ow)			Chatab / Campanda	1 = yes, blank = no			
Gild	Opening	Туре	Primary	Total	Length	Width	identification	LA	OA	СН	NAM	Mineral Desc		Sketch/ Comments -	Sketch	Photo	EDS	CH Not Counted
P4	64	nd																
	62	nd																
PC	Œ	nd																
	40	nd																
P6	63	nd																
	G1	nd																
		m																
		17	12/2/1															

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

CH = Chrysotile

NAM = Non-asbestos material

If sample was analyzed by more than one analyst or across multiple analysis dates, enter analysis details below.

	Analyst #2	Analyst #3
Analyzed by:		
Analysis date		
Instrument:		

Grid opening traverse direction (circle one):

H Horizontal

V Vertical

Are prepped grids accep	table for analysis? (circle one)	(4)
If No, explain:		_

(5)	No	

LIBBY TEM Asbestos Structure Count for Water Samples_WaterEDD_13f

Laboratory ID:	EMSL27
Instrument	JEOL 100 CX II (27-2)
Voltage (kV)	100
Magnification	19,000 X
Grid opening area (mm²)	0.013
Scale: 1L ≠	1
Scale: 1D =	1
Primary filter area (mm2)	360
Filter Pore Size (um)	0.2
Filter Status (Analyzed, Overloaded, Damaged, Lost, Cancelled)	Analyzed

EPA Sample Number	1R-4 4819	Тад	AL1		
Matrix	Water				
Volume (mL) rece	ived (optional)				
Date received by	ab	12/2	21/12		
Lab Job Number		2712	271201194		
Lab Sample Numb	271201194-0003				
Number of grids p	3				
Prepared by (e.g	M. Smith)	D. Barney			
Preparation date	12/2	18/12			
EPA COC Numbe	23364				
QA Type (Not QC, Re Diff, Reprep, Verified Lab Blank, Interlab)	He	t p.			

Analyze o	by (e.g. M. Smith)	R. Pescador
Analysis	date	12/26/12
Analysis	Method	TEM ISO
	Method SOP (in vith LB-000020)	ISO 10312
Grid stor	age location	2712-LIB-125
Archive flocation	ilter(s) storage	Cinnaminson
1st	Volume used from primary sample (mL)	
dilution	Total volume after dilution(mL)	
2nd	Volume used from 1st dilution (mL)	
dilution	Total volume after dilution(mL)	
Volume a	applied to filter (mL)	100
Estimate on filter (d particulate loading	100

Recording Rules:							
Minimum Aspect Ratio (circle one):							
none 23:1	≥51						
Minimum Length (um):	0.5						
Minimum Width (um):	none						

Stopping Rules	
Target Sensitivity (1/L):	200,000
Max Area Examined (mm²):	
Target # of Structures:	100
and the second s	

Oriot	Grid Grid		No. of Structures		Dimensions			Mineral Class (see below)							1 = y	es, blank	c = no	
GINO	Opening	Туре	Primary	Total	Length		Identification	LA	OA	сн	NAM	Mineral Desc	EDXA	Sketch/ Comments	Sketch	Photo	EDS	CH Not Counted
Q4	68	nd																
	GIB	nd																
Q5	68	nd																
	610	nd																
Q6	G8	nd																
1	60	nd																
																-		

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

CH = Chrysotile

NAM = Non-asbestos material

If sample was analyzed by more than one analyst or across multiple analysis dates, enter analysis details below.

	Analyst #2	Analyst #3
Analyzed by:		
Analysis date:		
Instrument:		

Grid opening traverse direction (circle one):

H Horizontal
V Ventical

Are prepped grids acceptable for analysis? (circle one) Yes No

If No, explain:

Laboratory ID:	EMSL27
Instrument	JEOL 100 CX II (27-2)
Voltage (kV)	100
Magnification	19,000 X
Grid opening area (mm²)	0,013
Scale: 1L =	1
Scale: 1D =	1
Primary filter area (mm2)	360
Filter Pore Slze (um)	0.2
Filter Status (Analyzed, Overloaded, Damaged, Lost, Cancelled)	Analyzed

EPA Sample Number	1R-4 5780	Tag	AL1			
Matrix	Water					
Volume (mL) receiv	ved (optional)					
Date received by la	ab	12/2	1/12			
Lab Job Number		271201194				
Lab Sample Numb	er	271201194-000 4				
Number of grids pr	epared	3				
Prepared by (e.g. I	VI. Smith)	D. Barney				
Preparation date		12/218/12				
EPA COC Number	23364					
QA Type (Not QC, Red Diff, Reprep, Verified A Lab Blank, Interlab)	(Introd)					

Analyzed	d by (e.g. M. Smith)	R. Pescador
Analysi s	date	12/26/12
Analysis	Method	TEM ISO
	Method SOP (in vith LB-000020)	ISO 10312
Grid stor	age location	2712-LIB-125
Archive flocation	ilter(s) storage	Cinnaminson
1st	Volume used from primary sample (mL)	
dilution	Total volume after dllution(mL)	
2nd	Volume used from 1st dilution (mL)	
dilution	Total volume after dilution(mL)	
Volume a	applied to filter (mL)	100
Estimate on filter (d particulate loading %)	18

Recording Rules:						
Minimum Aspect Ratio (circle one):						
none 23.7	<u>451</u>					
Minimum Length (um):	0.5					
Minimum Width (um):	none					

Stopping Rules:	
Target Sensitivity (1/L):	200,000
Max Area Examined (mm²):	
Target # of Structures:	100

Grid	Orid Grid Structu		e No. of Structures		Dimensions		- Identification	Mineral Class (see below)					State L. O.	1 = yes, blank = no				
Gild	Opening	Туре	Primary	Total	Length	Width	identification	LA	OA	СН	NAM	Mineral Desc	EDXA	Sketch/ Comments	Sketch	Photo	EDS	CH Not Counted
R4	F3	nd																
	F/	rel																
25	G8	nd																
	610	nd																
Rb	64	nd																
	G2	nd																
													- 100					
			M	,														
		-	7 7	26/12														

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

CH = Chrysotile

NAM = Non-asbestos material

If sample was analyzed by more than one analyst or across multiple analysis dates, enter analysis details below.

	Analyst #2	Analyst #3
Analyzed by:		
Analysis date:		
Instrument:		

Grid opening traverse direction (circle one):

H Horizontal
V Vertical

Are prepped grids acceptable for analysis? (circle one) If No, explain:	(PS)	No



EMSL Analytical, Inc. Lincoln County Landfill

107 West 4th Street Libby, MT 59923 Phone/Fax: (406) 293-9066 /

http://www.emsl.com / mobileasbestoslab@emsl.com

EMSL Order ID: Customer ID:

271201194 TECH25

Customer PO:

Project ID:

Libby

Attn: Doug Kent

TechLaw, Inc. **ESAT Region 8**

16194 W. 45th Drive Golden, CO 80403

Phone:

(303) 312-7725

Fax:

Collected:

12/18/2012 - 12/20/2012

Received: Analyzed: 12/21/2012 12/26/2012

Proj: 23364

Samples collected 12/18,19,20/2012 (Libby)

Test Report: Determination of Asbestos Structures ≥ 0.5 μm & > 10μm in Drinking Water Performed by the 100.2 Method (EPA 600/R-94/134)

							AS	BESTOS		
Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered	Effective I. Filter Area Area Analyzed		, —	Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration	Confidence Limits
Ollow, CAUCE	Date /in/e	(ml)	(mm²)	(mm²)	•			MFL	r liter)	
1R-44817 271201194-0001	12/21/2012 01:00 PM	100	1295	0.0780	≥ 0.5 μm	None Detected	ND	0.17	<0.17	0.00 - 0.61
Nat QC EMSL27	CDM-	mw-0	7		> 10 µm only	None Detected	ND	0.17	<0.17	0.00 - 0.61
1R-44818 271201194-0002	12/21/2012 01:00 PM	100	1295	0.0780	≥ 0.5 µm	None Detected	ND	0.17	<0.17	0.00 - 0.61
Not QC EMSL27	Fiel	d B	lant	4	> 10 µm only	None Detected	ND	0.17	<0.17	0.00 - 0.61
1R-44819 271201194-0003	12/21/2012 01:00 PM	100	1295	0.0780	≥ 0.5 µm	None Detected	ND	0.17	<0.17	0.00 - 0.61
Not QC EMSL27	Dup-1-	- CDM-	· MW-	08	> 10 µm only	None Detected	ND	0.17	<0.17	0.00 - 0.61
1R-45180 271201194-0004	12/21/2012 01:00 PM	100	1295	0.0780	≥ 0.5 µm	None Detected	ND	0.17	<0.17	0.00 - 0.61
Not QC EMSL27	DM-Mu	1-08			> 10 µm only	None Detected	ND	0.17	<0.17	0.00 - 0.61

12/28/12

Kris B. Simon W. Terry C. Damon R.

Α	nah	vsh	(s)

Roy Pescador

(4)

Mahonay, Laboratory Manager or Other Approved Signatory

Any questions please contact Ron Mahoney.

Initial report from: 12/26/2012 14:23:36

Sample collection and containers provided by the client, acceptable bottle blank level is defined as <0.01MFL>10um. ND=None Detected. This report may not be reproduced, except in full, without written permission by EMSL Analytical, Inc. This report relates only to those items tested Samples received in good condition unless otherwise noted.

Samples enalyzed by EMSL Analytical, Inc. Libby, MT MT CERT0017

EventiD LCLO20108

Libby Water Sample & Location Field Sample Data Sheet

FSDS # W - 100184

Address Lincoln County Landfill

operty ID: AD-000194 Logbook #1013/0 Pgs 11 Sampler(s) K. Beaudoin Swilson

SP ocation Yes	-113801		2		
ocation Yes					7
(If No, ".	Revised Z" through location section	Yes) (If No, "Z" thr	No Revised		No Revised
		7			
ription		•			
ft ²)	V3				7
ent	12-18-12				
ent 2		-			
1	R- 44817	,			
17	343			100	
	Y C	N	Y	N	Y
Indoor	Qutdo qr NA	Indoor C	outdoor NA	Indoor du	tdoor NA
stClear Clear: 1	Pre Post st 2 nd 3 rd 4 th 5 th 6 th 7 th	NA F Clear: 1 st 2 nd	Pre Post 3 rd 4 th 5 th 6 th 7 th	NA Pr	e Post 354 th 57 67 7 th
ES F	FD FB Other	FS FD	FB Other	FS FD	FB Other
ID					
Y	A	Y	Á	Y	N
ts 0	OHO NA	0 0	Other	0 Oth	ner
CDn	1-MW-07				
M 5	MED NO				
	Indoor stClear Clear: 1 ID Y ts CDM	### 12 - 18 - 12 18 - 12	1R- 44817 13 4 3 N	### 17 1343 1343 1343 145 15 16 17 18 18 18 18 18 18 18	### Indoor Quidoor NA Indoor Outdoor NA Indoor O

For Field Team Completion: Completed by: 100 OC by:

For Data Entry:

Entered by:

QC by:

Libby Water Sample & Location Field Sample Data Sheet

FSDS # W - 100291

Address Lincoln County Landfill

Date <u>12-19-12</u>

Logbook # 16/3/6 Pgs 12-13 Sampler(s) K. Beaudora S. Wilson perty ID: AD-000/9(0

	Data Item		不是一句描述 2 字类是一类的	3
*	Location ID	AD-000196 AD-00096	20 (20 (20 (20 (20 (20 (20 (20 (20 (20 (
*	Is this a new Location	Yes No Revised	Yes No Revised	Yes No Revised
	Location Type	(If No, "Z" through location section)	(If No, "Z" through location section)	(If No, "Z" through location section)
	Location Description			
	Location Area (ft²)	dB_		
West Committee of the C	Location Comment	12-17-12		
	Location Comment 2			/
*	Sample ID	1R- 44818	1R- 44819	1R- 45180
*	Sample Time	1259		
*	Sample ABS	Y	N ~/2	N Y
*	Sample Venue	Indoor Outdoo NA	Indoor Outdoor	ndoor Outdoor NA
*	Sample PrePostClear	Pre Post Clear: 1 st 2 nd 3 rd 4 th 5 th 6 th 7 th	NA Pre Post Clear: 1 st 2 nd 3 rd 4 th 5 th 6 th 7 th	Pre Post Clear: 1 st 2 nd 3 rd 4 th 5 th 6 th 7 th
*	Sample Type	FB Other	FS FD FB Other	FS FD FB Other
	Sample Parent ID	77.7		19-1)
*	Composite	Y	Y	Y N
*	Sample Aliquots	0 Other 14	0 Other	0 Other
	Sample Location Description	Field Blank		
		.0		
	Sample Field Comments	NV		

V 120120

*Required Field

**List company after Sampler(s) if not "CDM Smith"

For Field Team Completion: Completed by: QC by:

For Data Entry:

Entered by:

Charge #	1CE020108	
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Libby Water Sample & Location

FSDS # W - 100004

Address Lincoln County Land III

Property ID AD-000196 Logbook # 10/3/0 Pgs 14 Sampler(s) 16. Beauting 5. Ullson

	Data Item			3
	Location ID	SP-113799_	~~~	7
	Is this a new Location	Yes Revised *If No, go to Visible Vermiculite	Yes Nevised *If No, go to Visible Vermiculite	Yes No Revised *If No, go to Visible Vermiculite
	Location Type			
	Location Description	71-	A	
	Location Area (ft ²)		2-70-12	7
原弧	Location Comment			
	Sample ID	1R-44818 12-20.	1R- 44819	
	Sample Time	1120	//35	
	Sample Venue	Indoor outdoor NA	Indoor Outdoor NA	Indoor Outpoor NA
Section of	Sample PrePostClear	Pre Post Clear: 1 st 2 nd 3 rd 4 th 5 th 6 th 7 th	Pre Post Clear; 1 st 2 nd 3 rd 4 th 5 th 6 th 7 th	NA Pve Post Clear: 1 st 2 nd 3 rd 4 th 5 th 6 th 7 th
	Sample Type	F) FD Other	FD Other	FS FD Other
	Sample Parent ID		TR-44818 22.	R / 12 00
	Composite Y/N	Y 🐼	Y	Y / N
	Sample/Inspection Aliquots	30 Objer_ 14	30 Ther 14	30/ Other
	Sample Location Description	CDM-MW-08	Dup-1-COM-MW-8	
100 CONTRACTOR OF THE PARTY OF	Sample Field Comments	ND	ND	

V 110427



TRACY DODGE

CDM FEDERAL PROGRAMS CORP.

60 Port Blvd., Suite 201

Libby, MT 59923

Subject:

Report of Data - Project: LIBBY ASBESTOS TO-14/6402.DK1.002.S WorkOrder: 1212075

Attn.: TRACY DODGE

Enclosed are the results of analytical work performed in accordance with the referenced account number. This report covers sample(s) appearing on the listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097

Sincerely,

Compuchem

a division of Liberty Analytical Corporation

Attachment

TOTAL NUMBER	
OF PAGES	

CompuChem, a division of Liberty Analytical

Client: CDM FEDERAL PROGRAMS CORP.

Work: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sdg:

1212075

Lab ID	Client ID	Matrix	Date Sampled	Date Received	
1212075-01	1R-44817	Water	12/18/2012 13:43	12/21/2012 10:37	_
1212075-02	1R-44818	Water	12/19/2012 12:59	12/21/2012 10:37	
1212075-03	TB-1	Water	12/18/2012 00:00	12/21/2012 10:37	
1212075-04	1R-45180	Water	12/20/2012 11:20	12/22/2012 11:24	
1212075-05	1R-44819	Water	12/20/2012 11:35	12/22/2012 11:24	
1212075-06	TB-2	Water	12/18/2012 00:00	12/22/2012 11:24	

ANALYSES DATA PACKAGE COVER PAGE

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Laboratory: COMPUCHEM

SDG: 1212075

Client Sample Id:	Lab Sample Id:
1R-44817	<u>1212075-01</u>
<u>1R-44817</u>	<u>1212075-01</u>
1R-44817	<u>1212075-01</u>
<u>1R-44817</u>	1212075-01RE1
1R-44818	<u>1212075-02</u>
1R-44818	<u>1212075-02</u>
1R-44818	<u>1212075-02</u>
<u>1R-44818</u>	<u>1212075-02</u>
<u>1R-45180</u>	1212075-04
1R-45180	1212075-04
<u>1R-45180</u>	<u>1212075-04</u>
1R-45180	1212075-04
1R-44819	1212075-05
<u>1R-44819</u>	1212075-05
1R-44819	<u>1212075-05</u>
<u>1R-44819</u>	<u>1212075-05</u>

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the Electronic Data Deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:	Susan W Das	Name:	Susan Bass
Date:	12/30/2012	Title:	Senior Chemist



a Division of Liberty Analytical Corp.

501 Madison Avenue Cary, NC 27513

SDG NARRATIVE SDG # 1212075

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14-6402.DK1.002.SAMPL-14 DAY

The indicated Sample Delivery Group (SDG) consisting of four (4) water samples was received into the laboratory information management system (LIMS) on December 21 and 22, 2011 intact and in good condition with the Chain of Custody (COC) Records in order, unless otherwise noted in any attachments or Quality Assurance Notices. The cooler temperature indicator bottle was found with the samples and the samples temperature was 0.3 to 1.5 degrees Celsius. Temperature was recorded by IR temperature gun.

The samples were prepared and analyzed in accordance with SW846 6010C/6020A/7470A/9010C/9012B methodology for the requested metals, mercury, and cyanide.

EQUATIONS FOR LIQUID SAMPLE CALCULATIONS:

Equation for obtaining metals sample results in $\mu g/L$ as presented on Analysis Data Sheet data sheets from ICP/MS instrument acquired results in $\mu g/L$ (ppb).

 $C = concentration (\mu g/L)$

F = final volume in liters after sample preparation

I = initial volume in liters

Example: Barium for sample 1R-44817

33.76672
$$\mu$$
g/L (C) x 0.05 L (F) = 33.77 μ g/L reported as 200 U μ g/L 0.05 L (I)

INSTRUMENTAL QUALITY CONTROL:

All calibration verification solutions (LLICV, LLCCV, ICV & CCV), blanks (ICB, & CCB), and interference check samples (ICSA & ICSAB) associated with this data were confirmed to be within SW-846 methodology.

SAMPLE PREPARATION QUALITY CONTROL:

The sample preparation procedure verifications (LCSW & PBW) were found to be within acceptable ranges and the field samples were prepared and analyzed within the contract specified holding times.

MATRIX RELATED QUALITY CONTROL:

The ICP sample matrix spike, CCN = 2122410-MS1 (1R-44817S) was found to be inside control limits.

The ICP/MS sample matrix spike, CCN = 2122409-MS1 (1R-44817S) was found to be inside control limits.

The mercury sample matrix spike, CCN = 2122411-MS1 (1R-44817S) was found to be inside control limits.

The cyanide sample matrix spike, CCN = 2122608-MS1 (1R-44817S) was found to be inside control limits.

The ICP sample matrix duplicate spike, CCN = 2122410-MSD1 (1R-44817SD) was found to be inside control limits.

The ICP/MS sample matrix duplicate spike, CCN = 2122409-MSD1 (1R-44817SD) was found to be inside control limits.

The mercury sample matrix duplicate spike, CCN = 2122411-MSD1 (1R-44817SD) was found to be inside control limits.

The cyanide sample matrix duplicate spike, CCN = 2122608-MSD1 (1R-44817SD) was found to be outside control limits.

The ICP sample duplicate, CCN = 2122410-DUP1 (1R-44817D) was found to be inside control limits.

The ICP/MS sample duplicate, CCN = 2122409-DUP1 (1R-44817D) was found to be inside control limits.

The mercury sample duplicate, CCN = 2122411-DUP1 (1R-44817D) was found to be inside control limits.

The cyanide sample duplicate, CCN = 2122608-DUP1 (1R-44817D) was found to be inside control limits.

A five-fold serial dilution of sample, CCN = SDI1212075-01 (1R-44817L) was performed in accordance with SW-846 requirements for ICP and ICP/MS analysis.

The adjusted sample concentration was inside control limits.

I certify that the tests used in this report meet all requirements of the NELAC standards unless otherwise stated in the SDG narrative or QA notice.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on CD has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Susan W. Bass Senior Chemist

December 30, 2012

CompuChem

a division of Liberty Analytical Corporation

INORGANIC DATA REPORTING QUALIFIERS

On the Form I, under the column labeled "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. The qualifiers used are:

- U: This flag indicates the compound was analyzed for, not detected and is reported as less than the Method Detection Limit (MDL) (or as defined by the client). The Reporting Limit (RL), or Limit of Quantitation (LOQ), and the MDL will be adjusted to reflect any dilution or concentration of the sample and, for soils, the percent moisture.
- J: This flag indicates the reported result is an estimated value. The flag is used when an analyte is detected and the result is less than the adjusted RL/LOQ but equal to or greater than the MDL.
- Q: This flag denotes that one or more quality control criteria have failed (e.g., LCS recovery, Continuing Calibration Verification, CCV, and interference check standards for ICP-AES/ICP-MS) and reanalyses can't be performed. The Q flag is applied to all specific analyte(s) in all samples associated with the failed quality control criteria.
- B: This flag is used when the analyte is found in the associated method or calibration blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged B only when they are detected in the sample.
- D: This flag is applied to an analyte when the reported result is based on a dilution.

X/Y/Z: Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y, and Z.

The extensions: D, S, SD, L, and A are added to the end of the Client ID and represent the following:

- D Matrix Duplicate
- S Matrix Spike
- SD Matrix Spike Duplicate
- L Serial Dilution
- A Post Digestion Spike

Revision 0 (11-09-2010)

ompu hem A Division Of Liberty Analytical Corp.

CHAIN OF CUSTODY

Page / of /

501 Madison Ave.

Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

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CHAIN OF CUSTODY

501 Madison Ave.

Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

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CHAIN OF CUSTODY

501 Madison Ave. Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

Courier Fed-Ex	- 7943	6036	1831
Airbill No. 7943	6038	7989	
Sampling Complete?	Y or N)7	943 622	5246

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X 7.3	5 E)e	Pallopin	Colle	ection			- 1	Numbe	r of P	reserve	ed Bot	tles	200	de.	le le	Se 7	, v ~	3+	10%	1				(E.AD	Use)
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CompuÇhem No						# of	1.	NaOH	HN03	S04	МЕОН	Other No N	030	200 100	10/0 26/	70	ith 25	her	70	EP.		-	2+)
(Lab Use)		Field ID	Date		Matrix		HCI		Ĥ	H2S(Σ	Othe	Q 9	Q.	<u> </u>	<u>U ></u>	2	يكوا	4	レン	_				
	IR-	44817	2/13/12	13:43	Gw	36	15	3 (3	De.	70	3	7	(3)	7	7			7	7			>¤.	3/4	2
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Sample Unpacked B	3y: 🕢	. Nour Well			Cyanide :	samples cl	necked	for su	lfide &	& chlo	rine?(Y	or NA		<u> </u>											
Sample Order Entry		Mary Dry			625 & Pl	enol sam	oles ch	ecked	for ch	lorine?	Yori	(A)													
Samples Received in	n Good Co	dition? Y or N			608 samp	oles check	ed for	pH bet	ween	5.0-9.0)? Y o	TA)													
If no, explain:												4				\cap		-							
and the second	V/1 4		//	owins.	التنافلان			(S.41)	Sampl	e Cust	ody	1 Sec. 12.				\/	3334		A		0.e (45):			7	<u> </u>
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Relinquished by:		0			Date/Ti	me:					Rece	ived by	1	\mathcal{U}						Date/7	Time:				
Subcontact? Y or	N If yes, v	where?							Cust	ody S	eal(s)	intact?	Y)or N	4	On Ice	?(Y)c	r N			Coole	r Temp	:	1	~) °C
Samples stored 60 day			charge.						: 1				-					w copy		• Pink			mer		

CHAIN OF CUSTODY

501 Madison Ave.

Cary, NC 27513 Phone: 919-379-4100 Fax 919-379-4040

Sampling Complete? Y or (N) 7943 6220 524

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Company Name Com S	Mith		Project N	anne LL.	. m	7	A.	hæ	t as	P	oject	× 3	703	15. 15.		3	7.3	<u> </u>			() Groui - Wasi		
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City L. bbu	State Zip 59923		Turnarou	nd time	41)a.4	·5					200	3	100	a a	7 00	250	2	19		•	_	Trip II Rinsate		
Project Contact	//			or Projec		? If Sp	ecific,	whic	h Samp	le JD?		[2	C		43	300	2	4	a.	1		WP-	- Wipe	:	
Phyllis	Haugen			4481						5/m.	<u>SJ) </u>	tals +		2 2	37	70	25	IU Z	w d			0 - 0	Other		ĺ
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Sampler's Name			Are high	concentra	tions expe	cted?	Y or	לוו 🎝	es, wh	ich ID	(s)?	N 6.	,70%	90	o E	26	75-75	Z .	6			pF	l / Sam (Lab I		0
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(Lab Use)	Field ID	Date	Time	Matrix	bottles	НСІ	NaOH	HN03	H2SO.	MEOH	Other No N	Q 3	9,0	>%	ઇ ~	Z m	JVS		ي را	レ					
·	IR-44817	2/8/2	13:43	Gω	36	15	3	3	12	-	3	7	7	7	7	7	1	Z	(1)						
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Sample Unpacked B				Cyanide									<u> </u>												_
Sample Order Entry				625 & Ph							UF Y		<u> </u>												_
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Subcontact? Y or								Cust	ody S	eal(s)	intact?	Y or N	1	On Ice					Coole	r Tem): 	<u> </u>	1.9	۰,	C
Samples stored 60 day	s after date report mailed at no extra	charge.								, .	. '	\sim		347	White	& Yello	w copy	v to lab	 Pinf 	k copy i	or cust	omer			

Compu hem A Division Of Liberty Analytical Corp.

Samples stored 60 days after date report mailed at no extra charge.

CHAIN OF CUSTODY

501 Madison Ave.

Courier <u>Fed - Ex - 7943 7340 6690</u> Airbill No. 7943 7394 8532

White & Yellow copy to lab . Pink copy for customer

Cary, NC 27513 Sampling Complete? Y or N Phone: 919-379-4100 Fax 919-379-4040 Requested Analysis (include method and bottle type) Client/Reporting Information Matrices Project Information GW) Ground water Project Name Mr Smith WW - Waste water Address Sampling Location SW - Surface water SO - Soil/Sediment Turnaround time TB) Trip Blank City RI - Rinsate Batch QC or Project Specific? If Specific, which Sample ID? WP - Wipe O - Other Are aqueous samples field filtered for metals? (Y) or N Sampler's Name Are high concentrations expected? Y or N? If yes, which ID(s)? pH / Sample Info (Lab Use) Collection Number of Preserved Bottles МЕОН H2SO4 CompuChem No # of (Lab Use) Date bottles Field ID Time Matrix 11:20 6 W 1212075-04 /a 0 0 12/2075-00 Lab Use Only Sample Unpacked By: Cyanide samples checked for sulfide & chloring? Y of NA Sample Order Entry By: 625 & Phenol samples checked for chlorine? Y or MA Samples Received in Good Condition? 608 samples checked for pH between 5.0-9.0? Y or NA If no, explain: Sample Custody Relinquished by Dullis Hausen CAM Smith Date/Time: /2/2// Received by: Date/Time: Relinguished by Received by: Date/Time: Subcontact? (Y or N If yes, where? MADEPI/PH & EPH On Ice? Y of N (A) Custody Seal(s) intact? Y or N Cooler Temp: (), 4

Samples stored 60 days after date report mailed at no extra charge.

CHAIN OF CUSTODY

501 Madison Ave.

Cary, NC 27513

Page / of / Courier Ed - Ex - 7943 7340 6690

White & Yellow copy to lab . Pink copy for customer

Airbill No. 7943 1394 8532 Sampling Complete? YOU N Phone: 919-379-4100 Fax 919-379-4040 Client/Reporting Information Requested Analysis (include method and bottle type) Matrices Project Information GW) Ground water Project Name CAM Smith WW - Waste water SW - Surface water Sampling Location Address SO - Soil Sediment TB) Trip Blank Turnaround time City 59923 + Mer RI - Rinsate Batch QC or Project Specific? If Specific, which Sample 1D? WP - Wine O - Other Are aqueous samples field filtered for metals? Y or N Are high concentrations expected? Y or N If yes, which ID(s)? pH / Sample Info (Lab Use) Number of Preserved Bottles Collection МЕОН CompuChein No (Lab Use) Field ID Time | Matrix bottles Date 11:20 BW NA NA 3 Lab Use Only Comments Sample Unpacked By: Cyanide samples checked for sulfide & chlorine? Y of NA Sample Order Entry By: 625 & Phenol samples checked for chlorine? Y or NA Samples Received in Good Condition Y or N 608 samples checked for pH between 5.0-9.0? Y of NA If no, explain: Sample Custody Relinquished by Date/Time: 12/1 Received by: Date/Time: Relinquished by: Date/Time: Received by: Date/Time: Subcontact? Y or N If yes, where? MADEP (PH Custody Seal(s) intact? Y or On Ice Cooler Temp: ٥C.



CHAIN OF CUSTODY

501 Madison Ave.

Cary, NC 27513

Page ______ of ____ Courier Fed - Ex - 7943 7340 6690 Airbill No. 7943 7394 8532

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	ent/Reporting Information				Proj	ect lin	ormati	on			O.C.		Re	questec	Analys	is (inclu	de meth	nod and	bottle ty	pe)	-		atrices	_
Company Name	mith		Project N	ame hby	MI	As	bes	st o	5_	Proj	iect	77	7		3		Ole of				WV	/) - Gro V - W:	aste v	vater
Address	+ RIVI C+ A	c. 1	Sampling	Location	1 1.1		m	7		•		27-	8	12	70	/ ,			6/455		1	- Sur - Soil		
City,	<u>t Blvd Ste 2</u> State Zip	E/	Turnarou	<i>_</i>	- no	y .	[//					6407	35.0	OU C		0	SOR	ł	(4)		-	Trip		
Libbu	MT 59923												િં	X M	to	,	Sem V		١		RI.	- Rins	ate	
Project Contact	Haugen			-	t Specific	•			_			+ Me	2	V.	101	50 A	3	9	0 4			Other	•	
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Sampler's Name	8-8595 X 33 Beaudoin		Are high	concentra	tions expc	cted?	YouN) If y	es. wh	ich ID	(s)?	Me to	7 7	3		26	ار پر درور	4 >	*		P	H/Sa	imple	Info
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CompuChem No (Lab Use)	Field ID	Date	Time	Matrix	# of bottles	FCI	NaOH	HNO3	H2SO4	МЕОН	Other No N	Dissolv	Cye	Vola	15.	2	7.0°	2	EUN					
	1R-45180	19/24/2	11:20	EW	/a	5	1	1	4	0	1	0	7	1	1	T	1	7						
	1R-44819	12/20/2	11:35	GW	12	5	1	1	4	0	1		7	7	7	7	1	1						
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Sample Unpacked E				1	samples cl)												
Sample Order Entry		7			nenol sam								<u> </u>											
Samples Received i	n Good Condition Y of N			608 sam	ples check	ed for	pH be	tween	5.0-9.	0? Y ò	TXA)		 _											
If no, explain:	KAN KANDANG MENUNGKAN DINAK ANDAN ANDAN ANDAN ANDAN	CV UNIONE AN		00 V V V V V V V V V V V V V V V V V V	a. Versa, si wele e	angari a	RESULT.	e land	200	224.75	51.00. 93.00	72.87273.755	I/I	\bigcirc	e21 21 15 15	· · · · · · · · · · · · · · · · · · ·			38 275 577		<u>,</u>			
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Subcontact? Y or	N If yes, where?			1-2			···	Cust	ody S		intact?		N	On I	(Y	or N			1-	r Temp:	n.	3		°C
	s after date report mailed at no extra	charge.								(5)	(ノ ー		1~11			ow cop	y to lab		copy for cu	stom	er		

Printed: 12/22/2012 12:52:57PM

1212075

COMPUCHEM

Client: CDM FEDERAL PROGRAMS CORP. Project Manager: **Cathy Dover** Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA Project Number:

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14

Invoice To:

SDG: CASE: 1212075 Status: Received

CDM FEDERAL PROGRAMS CORP. CDM FEDERAL PROGRAMS CORP.

SUBCONTRACT MANAGER TRACY DODGE

60 Port Blvd., Suite 201 14420 ALBEMARLE POINT PLACE, SUITE 210

Libby, MT 59923 CHANTILLY, VA 20151 Phone: (406) 293-8595 Phone:-

Fax: -Fax: -

Date Due: 01/04/2013 00:00 (13 day TAT)

Report To:

Received By: Date Received: 12/22/2012 11:24 Cathy Dover Logged In By: Cathy Dover Date Logged In: 12/21/2012 12:52

J & B Flags?: TICS?: NO EDD: 68) LATA EXCEL Deliverable: Style 3

RL/CRQL Metals ND to? Spike Level: FULL Spike

USE 1212075-01 FOR QC*VOC 25ML=LIBBY.SUB*6020A MTL=Sb,As,Be,Cd,Pb,Se,Tl*6010C MTL=Ba,Cr,Co,Cu,Fe,Ni,Ag,V & MDL REPORT

Analysis	Due	TAT	Expires	Received	Comments
1212075-01 1R-44817 [Water] 5	Sampled 12/18/2012 13:	43 East	ern	USE F	OR QC
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/04/2013 13:43	12/21/2012 10:37	
6010C DISS. METALS VARIABLE I	invoice 01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	SubList = $VOA - LIBBY (12-31-11)$
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
7470A 7471B Mercury	01/04/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
6010C METALS	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
IC 300 Anions	01/04/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
1212075-02 1R-44818 [Water] 5	Sampled 12/19/2012 12:	59 East	ern		
6010C METALS	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
7470A 7471B Mercury	01/04/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
IC 300 Anions	01/04/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/05/2013 12:59	12/21/2012 10:37	
6010C DISS. METALS VARIABLE I	nvoice 01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
VOA-8260B 25ML	01/04/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)

WORK ORDER

Printed: 12/22/2012 12:52:57PM

1212075

COMPUCHEM

Client: CDM FEDERAL PROGRAMS CORP.

CASE:

Project Manager:

Cathy Dover

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA SDG: 1212075

Project Number: Status:

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I

Batched

Analysis	Due	TAT	Expires	Comments	· · · · · · · · · · · · · · · · · · ·
1212075-03 TB-1 [Water] Sam	pled 12/18/2012 00:00 E	astern		TRIP E	BLK
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 00:00	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)
1212075-04 1R-45180 [Water]	Sampled 12/20/2012 11:	20 Easte	ern		
6010C DISS. METALS VARIABLE	Invoice 01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24	•
6010C METALS	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24	
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24	
7470A 7471B Mercury	01/04/2013 16:00	13	01/17/2013 11:20	12/22/2012 11:24	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/03/2013 11:20	12/22/2012 11:24	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24	
IC 300 Anions	01/04/2013 16:00	13	01/17/2013 11:20	12/22/2012 11:24	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/06/2013 11:20	12/22/2012 11:24	
VOA-8260B 25ML	01/04/2013 16:00	13	01/03/2013 11:20	12/22/2012 11:24	SubList = VOA - LIBBY (12-31-11)
1010055 05 1D 44010 DV-41	S	25 E4-			
1212075-05 1R-44819 [Water] 6010C DISS. METALS VARIABLE	-	35 Easte 13	o6/18/2013 11:35	12/22/2012 11:24	
					SubList = VOA - LIBBY (12-31-11)
VOA-8260B 25ML	01/04/2013 16:00	13	01/03/2013 11:35	12/22/2012 11:24	SubList - VOA - LIBBT (12-31-11)
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24	
7470A 7471B Mercury	01/04/2013 16:00	13	01/17/2013 11:35	12/22/2012 11:24	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/03/2013 11:35	12/22/2012 11:24	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24	
IC 300 Anions	01/04/2013 16:00	13	01/17/2013 11:35	12/22/2012 11:24	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/06/2013 11:35	12/22/2012 11:24	
6010C METALS	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24	
1212075-06 TB-2 [Water] Sam	pled 12/18/2012 00:00 E	astern		TRIP B	DLK
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 00:00	12/22/2012 11:24	SubList = VOA - LIBBY (12-31-11)

INTERNAL DIGESTION COC

2122410

COMPUCHEM

Printed: 12/24/2012 11:34:37AM

Matrix: Water

Prepared using: METALS - EPA 3010A

Lab Number	Client ID	Sample Type	
1212075-01	1R-44817	Sample	
1212075-02	1R-44818	Sample	
1212075-04	1R-45180	Sample	
1212075-05	1R-44819	Sample	
2122410-BLK1	PBW	Blank	
2122410-BS1	LCSW	LCS	
2122410-DUP1	1R-44817D	Duplicate	
2122410-MS1	1R-44817S	Matrix Spike	
2122410-MSD1	1R-44817SD	Matrix Spike Dup	

12-26-12 1545 ICP Storage 12-26-12 1545 Relinquished By Date しと別し Date Received By 1222/2 Relinquished By Received_By Date Date 123012 FUSh Relinquished By Date Received By Date Relinquished By Date Received By Date

INTERNAL DIGESTION COC

2122409

COMPUCHEM

Printed: 12/24/2012 11:30:18AM

Matrix: Water

Prepared using: METALS - EPA 3005A

Lab Number	Client ID	Sample Type	
1212075-01	1R-44817	Sample	
1212075-02	1R-44818	Sample	
1212075-04	1R-45180	Sample	
1212075-05	1R-44819	Sample	
2122409-BLK1	PBW	Blank	
2122409-BS1	LCSW	LCS	
2122409-DUP1	1R-44817D	Duplicate	
2122409-MS1	1R-44817S	Matrix Spike	
2122409-MSD1	1R-44817SD	Matrix Spike Dup	

Relinquished By

Relinquished By

Date

Received By

Received By

Received By

Date

Received By

Received By

Date

Received By

Date

Received By

Date

Received By

Date

Metals Internal Chain of Custody Sheet

Batch 2122409 Status: Batched

Analysis: 6020A ICP MS (UPDATE IV)

Lab ld	Client_ld	Received	Container	Extraction	Preservative	Matrix	Due Date	Cust Date
1212075-01 J	1R-44817	12/21/12	3s_1000mL Plastic, HNO3	EPA 3005A	Add HNO3 to pH<2	Water	1/4/2013 4	
1212075-02 D	1R-44818	12/21/12	3s_1000mL Plastic, HNO3	EPA 3005A	Add HNO3 to pH<2	Water	1/4/2013 4	
1212075-04 D	1R-45180	12/22/12	3s_1000mL Plastic, HNO3	EPA 3005A	Add HNO3 to pH<2	Water	1/4/2013 4	
1212075-05 D	1R-44819	12/22/12	3s_1000mL Plastic, HNO3	EPA 3005A	Add HNO3 to pH<2	Water	1/4/2013 4	

Ambient Stg.	12-26-12 1010	s. Bolton	12-26-12 1010
Relinguished By	Date/Time 12-26-12 1600	Received By MMb18N+ Stell	Date/Time 12-26-[2 16 るぐ
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	 Date/Time	Received By	Date/Time

Metals Internal Chain of Custody Sheet

Batch 2122608 Status: Batched

Analysis: 9010C 9012B CYANIDE

Lab ld	Client_ld	Received	Gontainer	Extraction	Preservative	Matrix	Due Date	Cust Date
1212075-01 M	1R-44817	12/21/12	3h_250mL Plastic, cool, NaOH	9010C	pH>12 NaOH, Cool 4	Water	1/4/2013 4	
1212075-02 E	1R-44818	12/21/12	3h_250mL Plastic, cool, NaOH	9010C	pH>12 NaOH, Cool 4	Water	1/4/2013 4	
1212075-04 E	1R-45180	12/22/12	3h_250mL Plastic, cool, NaOH	9010C	pH>12 NaOH, Cool 4	Water	1/4/2013 4	
1212075-05 E	1R-44819	12/22/12	3h_250mL Plastic, cool, NaOH	9010C	pH>12 NaOH, Cool 4	Water	1/4/2013 4	

Cooler #1	12-26-12 1455	s Bolton	12:26-12 1455
Relinquished By S.BoHon	Date/Time 12-26/12 1600	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinguished By	Date/Time	Received By	Date/Time

INTERNAL DIGESTION COC

2122608

COMPUCHEM

Printed: 12/26/2012 2:53:56PM

Matrix: Water

Prepared using: METALS - 9010C

Lab Number	Client ID	Sample Type	
1212075-01	1R-44817	Sample	
1212075-02	1R-44818	Sample	
1212075-04	1R-45180	Sample	
1212075-05	1R-44819	Sample	
2122608-BLK1	PBW	Blank	
2122608-BS1	LCSW	LCS	
2122608-DUP1	1R-44817D	Duplicate	
2122608-MS1	1R-44817S	Matrix Spike	
2122608-MSD1	1R-44817SD	Matrix Spike Dup	

s. Bolton	12-26-12 1720	CN Storage	12-26-12 1720
Relinquished By CM 5+9	Date 106/200	Received By	Date 12/27/12 0847
Relinquished By	Date 10 0 7 (v. 1350	Received By	Date 19/37/11 1350
Relinquished By	Date	Received By	Date
Relinquished By	Date	Received By	Date

ANALYSIS DATA SHEET

1R-44817

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: <u>1212075-01</u> % Solid: <u>Matrix: Water</u> Sampled: <u>12/18/12</u> Received: <u>12/21/12</u>

CAS NO.	Analyte	Conc. (ug/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
7440-36-0	Antimony (dissolved)		0.0260	2.00	1	U	EPA 6020A	2L26017	12/26/12 17:08
7440-38-2	Arsenic (dissolved)		0.140	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:08
7440-39-3	Barium (dissolved)		66.5	200	1	U	EPA 6010C	2L30001	12/28/12 14:13
7440-41-7	Beryllium (dissolved)		0.0330	1,00	1	U	EPA 6020A	2L26017	12/26/12 17:08
7440-43-9	Cadmium (dissolved)		0.0110	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:08
7440-47-3	Chromium (dissolved)		3.76	10.0	1	U	EPA 6010C	2L30001	12/28/12 14:13
7440-48-4	Cobalt (dissolved)		7.33	20.0	1	U	EPA 6010C	2L30001	12/28/12 14:13
7440-50-8	Copper (dissolved)		0.910	5.00	1	Ŭ	EPA 6010C	2L30001	12/28/12 14:13
57-12-5	Cyanide		2.50	10.0	1	U	EPA 9010C/9012B	2L27010	12/27/12 13:11
7439-89-6	Iron (dissolved)		69.4	200	1	U	EPA 6010C	. 2L30001	12/28/12 14:13
7439-92-1	Lead (dissolved)		0.0210	1.00	1	Ŭ	EPA 6020A	2L26017	12/26/12 17:08
7439-97-6	Mercury		0.0355	0.200	1	U	EPA 7470A	2L27007	12/27/12 10:33
7440-02-0	Nickel (dissolved)		3.43	10.0	1	U	EPA 6010C	2L30001	12/28/12 14:13
7782-49-2	Selenium (dissolved)		0.0900	5.00	1	Ü	EPA 6020A	2L26017	12/26/12 17:08
7440-22-4	Silver (dissolved)		2.02	5.00	1	U	EPA 6010C	2L30001	12/28/12 14:13
7440-28-0	Thallium (dissolved)		0.0150	1.00	1	Ŭ	EPA 6020A	2L26017	12/26/12 17:08
7440-62-2	Vanadium (dissolved)		6.52	20.0	1	Ū	EPA 6010C	2L30001	12/28/12 14:13
7440-66-6	Zinc (dissolved)		10.2	30.0	1	U	EPA 6010C	2L30001	12/28/12 14:13



ANALYSIS DATA SHEET

1R-44818

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 1212075-02 % Solid: Matrix: Water Sampled: 12/19/12 Received: 12/21/12

CAS NO.	Analyte	Conc. (ug/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
7440-36-0	Antimony (dissolved)		0.0260	2.00	1	U	EPA 6020A	2L26017	12/26/12 17:18
7440-38-2	Arsenic (dissolved)		0.140	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:18
7440-39-3	Barium (dissolved)		66.5	200	1	U	EPA 6010C	2L30001	12/28/12 15:17
7440-41-7	Beryllium (dissolved)	_	0.0330	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:18
7440-43-9	Cadmium (dissolved)		0.0110	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:18
7440-47-3	Chromium (dissolved)		3.76	10.0	1	U	EPA 6010C	2L30001	12/28/12 15:17
7440-48-4	Cobalt (dissolved)		7.33	20.0	1	U	EPA 6010C	2L30001	12/28/12 15:17
7440-50-8	Copper (dissolved)		0.910	5.00	1	U	EPA 6010C	2L30001	12/28/12 15:17
57-12-5	Cyanide		2.50	10.0	1	Ŭ	EPA 9010C/9012B	2L27010	12/27/12 12:37
7439-89-6	Iron (dissolved)		69.4	200	1	U	EPA 6010C	2L30001	12/28/12 15:17
7439-92-1	Lead (dissolved)		0.0210	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:18
7439-97-6	Mercury		0.0355	0.200	1	U	EPA 7470A	2L27007	12/27/12 10:41
7440-02-0	Nickel (dissolved)		3.43	10.0	1	U	EPA 6010C	2L30001	12/28/12 15:17
7782-49-2	Selenium (dissolved)		0.0900	5.00	1	Ŭ	EPA 6020A	2L26017	12/26/12 17:18
7440-22-4	Silver (dissolved)		2.02	5.00	1	U	EPA 6010C	2L30001	12/28/12 15:17
7440-28-0	Thallium (dissolved)		0.0150	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:18
7440-62-2	Vanadium (dissolved)		6.52	20.0	i	Ŭ	EPA 6010C	2L30001	12/28/12 15:17
7440-66-6	Zinc (dissolved)		10.2	30.0	1	U	EPA 6010C	2L30001	12/28/12 15:17



ANALYSIS DATA SHEET

1R-45180

CDM FEDERAL PROGRAMS CORP. Client:

SDG: <u>1212075</u>

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: <u>1212075-04</u>

% Solid:

Matrix: Water

Sampled: <u>12/20/12</u>

Received: <u>12/22/12</u>

CAS NO.	Analyte	Conc. (ug/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
7440-36-0	Antimony (dissolved)		0.0260	2.00	1	U	EPA 6020A	2L26017	12/26/12 17:20
7440-38-2	Arsenic (dissolved)		0.140	1.00	1	Ŭ	EPA 6020A	2L26017	12/26/12 17:20
7440-39-3	Barium (dissolved)		66.5	200	1	U	EPA 6010C	2L30001	12/28/12 15:24
7440-41-7	Beryllium (dissolved)		0.0330	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:20
7440-43-9	Cadmium (dissolved)		0.0110	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:20
7440-47-3	Chromium (dissolved)		3.76	10.0	1	U	EPA 6010C	2L30001	12/28/12 15:24
7440-48-4	Cobalt (dissolved)		7.33	20.0	1	Ŭ	EPA 6010C	2L30001	12/28/12 15:24
7440-50-8	Copper (dissolved)		0.910	5.00	1	U	EPA 6010C	2L30001	12/28/12 15:24
57-12-5	Cyanide		2.50	10.0	1	U	EPA 9010C/9012B	2L27010	12/27/12 12:38
7439-89-6	Iron (dissolved)		69.4	200	1	U	EPA 6010C	2L30001	12/28/12 15:24
7439-92-1	Lead (dissolved)		0.0210	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:20
7439-97-6	Mercury		0.0355	0.200	1	U	EPA 7470A	2L27007	12/27/12 10:48
7440-02-0	Nickel (dissolved)		3.43	10.0	1	U	EPA 6010C	2L30001	12/28/12 15:24
7782-49-2	Selenium (dissolved)		0.0900	5.00	1	U	EPA 6020A	2L26017	12/26/12 17:20
7440-22-4	Silver (dissolved)		2.02	5.00	ı	U	EPA 6010C	2L30001	12/28/12 15:24
7440-28-0	Thallium (dissolved)		0.0150	1.00	1	Ŭ	EPA 6020A	2L26017	12/26/12 17:20
7440-62-2	Vanadium (dissolved)		6.52	20.0	1	U	EPA 6010C	2L30001	12/28/12 15:24
7440-66-6	Zinc (dissolved)		10.2	30.0	1	U.	EPA 6010C	2L30001	12/28/12 15:24



ANALYSIS DATA SHEET

1R-44819

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 1212075-05 % Solid: Matrix: Water Sampled: 12/20/12 Received: 12/22/12

CAS NO.	Analyte	Conc. (ug/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
7440-36-0	Antimony (dissolved)		0.0260	2.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7440-38-2	Arsenic (dissolved)		0.140	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7440-39-3	Barium (dissolved)		66.5	200	1	U	EPA 6010C	2L30001	12/28/12 15:31
7440-41-7	Beryllium (dissolved)		0.0330	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7440-43-9	Cadmium (dissolved)		0.0110	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7440-47-3	Chromium (dissolved)		3.76	10.0	1	U	EPA 6010C	2L30001	12/28/12 15:31
7440-48-4	Cobalt (dissolved)		7.33	20.0	1	U	EPA 6010C	2L30001	12/28/12 15:31
7440-50-8	Copper (dissolved)		0.910	5.00	1	U	EPA 6010C	2L30001	12/28/12 15:31
57-12-5	Cyanide		2.50	10.0	1	U	EPA 9010C/9012B	2L27010	12/27/12 12:41
7439-89-6	Iron (dissolved)		69.4	200	1	Ŭ	EPA 6010C	2L30001	12/28/12 15:31
7439-92-1	Lead (dissolved)		0.0210	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7439-97-6	Mercury		0.0355	0.200	1	U	EPA 7470A	2L27007	12/27/12 10:50
7440-02-0	Nickel (dissolved)		3.43	10.0	1	U	EPA 6010C	2L30001	12/28/12 15:31
7782-49-2	Selenium (dissolved)		0.0900	5.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7440-22-4	Silver (dissolved)		2.02	5.00	1	U	EPA 6010C	2L30001	12/28/12 15:31
7440-28-0	Thallium (dissolved)		0.0150	1.00	1	U	EPA 6020A	2L26017	12/26/12 17:25
7440-62-2	Vanadium (dissolved)		6.52	20.0	1	Ū	EPA 6010C	2L30001	12/28/12 15:31
7440-66-6	Zinc (dissolved)		10.2	30.0	1	U	EPA 6010C	2L30001	12/28/12 15:31



EPA 6020A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

 $Sequence: \ \underline{2L26017}$

Instrument ID: PEMS

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2L26017-ICB1	Antimony	0.0196	0.0260	2.00	ug/L	U	EPA 6020A
ICB	2L26017-ICB1	Arsenic	-0.0226	0.140	1.00	ug/L	U	EPA 6020A
ICB	2L26017-ICB1	Beryllium	0.0165	0.0330	1.00	ug/L	U	EPA 6020A
ICB	2L26017-ICB1	Cadmium	0.00377	0.0110	1.00	ug/L	U	EPA 6020A
ICB	2L26017-ICB1	Lead	-0.136	0.0210	1.00	ug/L	J	EPA 6020A
ICB	2L26017-ICB1	Selenium	-0.0327	0.0900	5.00	ug/L	U	EPA 6020A
ICB	2L26017-ICB1	Thallium	0.00978	0.0150	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB1	Antimony	0.266	0,0260	2.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB1	Arsenic	0.333	0.140	1.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB1	Beryllium	0.110	0.0330	1.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB1	Cadmium	0.228	0.0110	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB1	Lead	-0.0112	0.0210	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB1	Selenium	0.306	0.0900	5.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB1	Thallium	0.147	0.0150	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB2	Antimony	0.0421	0.0260	2.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB2	Arsenic	-0.00850	0.140	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB2	Beryllium	0.0301	0.0330	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB2	Cadmium	-0.000890	0.0110	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB2	Lead	-0.150	0.0210	1.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB2	Selenium	-0.0319	0.0900	5.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB2	Thallium	0.00848	0.0150	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB3	Antimony	0.0661	0.0260	2.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB3	Arsenic	-0.0187	0.140	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB3	Beryllium	0.0168	0.0330	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB3	Cadmium	0.00853	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB3	Lead	-0.145	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB3	Selenium	-0.0255	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB3	Thallium	0.0107	0.0150	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB4	Antimony	0.133	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB4	Arsenic	0.645	0.140	1.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB4	Beryllium	0.0164	0.0330	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB4	Cadmium	0.00730	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB4	Lead	-0.131	0.0210	1.00	ug/L	J	EPA 6020A



EPA 6020A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: <u>LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY</u>

Sequence: 2L26017

Instrument ID: PEMS

-Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ССВ	2L26017-CCB4	Selenium	0.108	0.0900	5.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB4	Thallium	0.0193	0.0150	1.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB5	Antimony	0.0597	0.0260	2.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB5	Arsenic	-0.00623	0.140	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB5	Beryllium	0.00927	0.0330	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB5	Cadmium	0.00476	0.0110	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB5	Lead	-0.123	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB5	Selenium	0.00430	0.0900	5.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB5	Thallium	0.00800	0.0150	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB6	Antimony	0.0725	0.0260	2.00	ug/L	J	EPA 6020A
CCB-	2L26017-CCB6	Arsenic	-0.0111	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB6	Beryllium	0.0120	0.0330	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB6	Cadmium	0.00540	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB6	Lead	-0.136	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB6	Selenium	0.0699	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB6	Thallium	0.00904	0.0150	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB7	Antimony	0.109	0.0260	2.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB7	Arsenic	0.0526	0.140	1.00	ug/L	U.	EPA 6020A
ССВ	2L26017-CCB7	Beryllium	0.226	0.0330	1.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB7	Cadmium	0.0365	0.0110	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB7	Lead	-0.00824	0.0210	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB7	Selenium	-0.00816	0.0900	5.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB7	Thallium	0.112	0.0150	1.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB8	Antimony	0.0721	0.0260	2.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB8	Arsenic	0.0170	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB8	Beryllium	0.0234	0.0330	1.00	ug/L	U	EPA 6020A
CCB-	2L26017-CCB8	Cadmium	0.0139	0.0110	1.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB8	Lead	-0.139	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCB8	Selenium	0.00575	0.0900	5.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB8	Thallium	0.0171	0.0150	1.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB9	Antimony	0.0628	0.0260	2.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB9	Arsenic	-0.00427	0.140	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCB9	Beryllium	0.00972	0.0330	1.00	ug/L	U	EPA 6020A



EPA 6020A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L26017

Instrument ID: <u>PEMS</u>

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
CCB	2L26017-CCB9	Cadmium	-0.00155	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB9	Lead	-0.144	0.0210	1.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCB9	Selenium	-0.0296	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCB9	Thallium	0.00840	0.0150	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCBA	Antimony	0.0545	0.0260	2.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCBA	Arsenic	-0.0373	0.140	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCBA	Beryllium	0.00745	0.0330	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBA	Cadmium	-0.00173	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBA	Lead	-0.150	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBA	Selenium	-0.00560	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBA	Thallium	0.00722	0.0150	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBB	Antimony	0.0679	0.0260	2.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCBB	Arsenic	0.000900	0.140	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCBB	Beryllium	0.0289	0.0330	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCBB	Cadmium	0.00684	0.0110	1.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCBB	Lead	-0.143	0.0210	1.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCBB	Selenium	0.0356	0.0900	5.00	ug/L	U	EPA 6020A
ССВ	2L26017-CCBB	Thallium	0.0122	0.0150	1.00	ug/L	U	EPA 6020A
PBW	2122409-BLK1	Antimony		0.0260	2.00	ug/L	U	EPA 6020A
PBW	2122409-BLK1	Arsenic		0.140	1.00	ug/L	U	EPA 6020A
PBW	2122409-BLK1	Beryllium		0.0330	1.00	ug/L	U	EPA 6020A
PBW	2122409-BLK1	Cadmium	0.0137	0.0110	1.00	ug/L	J	EPA 6020A
PBW	2122409-BLK1	Lead	-0.101	0.0210	1.00	ug/L	J	EPA 6020A
PBW	2122409-BLK1	Selenium		0.0900	5.00	ug/L	U	EPA 6020A
PBW	2122409-BLK1	Thallium	0.0186	0.0150	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBC	Antimony	0.0729	0.0260	2.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBC	Arsenic	0.0365	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBC	Beryllium	0.0235	0.0330	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBC	Cadmium	0.0155	0.0110	1.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCBC	Lead	-0.139	0.0210	1.00	ug/L	J	EPA 6020A
ССВ	2L26017-CCBC	Selenium	0.0210	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBC	Thallium	0.0198	0.0150	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBD	Antimony	0.0624	0.0260	2.00	ug/L	1	EPA 6020A



EPA 6020A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L26017

Instrument ID: PEMS

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
CCB	2L26017-CCBD	Arsenic	0.0269	0.140	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBD	Beryllium	0.0348	0.0330	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBD	Cadmium	0.00695	0.0110	1.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBD	Lead	-0.138	0.0210	1.00	ug/L	J	EPA 6020A
CCB	2L26017-CCBD	Selenium	-0.0237	0.0900	5.00	ug/L	U	EPA 6020A
CCB	2L26017-CCBD	Thallium	0.0149	0.0150	1.00	ug/L	U	EPA 6020A



EPA 7470A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: <u>LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY</u>

Sequence: 2L27007

Instrument ID: <u>V4</u>

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2L27007-ICB1	Mercury	-0.0370	0.0355	0.200	ug/L	J	EPA 7470A
ССВ	2L27007-CCB1	Mercury	-0.0520	0.0355	0.200	ug/L	J	EPA 7470A
CCB	2L27007-CCB2	Mercury	-0.00800	0.0355	0.200	ug/L	U	EPA 7470A
PBW	2122411-BLK1	Mercury	0.0510	0.0355	0.200	ug/L	J	EPA 7470A
CCB	2L27007-CCB3	Mercury	-0.0490	0.0355	0.200	ug/L	J	EPA 7470A
ССВ	2L27007-CCB4	Mercury	-0.171	0.0355	0.200	ug/L	J	EPA 7470A



EPA 9010C/9012B

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L27010

Instrument ID: C2

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2L27010-ICB1	Cyanide	-0.420	2.50	10.0	ug/L	U	EPA 9010C/9012B
CCB	2L27010-CCB1	Cyanide	-3.05	2.50	10.0	ug/L	J	EPA 9010C/9012B
PBW	2122608-BLK1	Cyanide		2.50	10.0	ug/L	U	EPA 9010C/9012B
ССВ	2L27010-CCB2	Cyanide	-0.840	2.50	10.0	ug/L	U	EPA 9010C/9012B
CCB	2L27010-CCB3	Cyanide	-1.38	2.50	10.0	ug/L	U	EPA 9010C/9012B
ССВ	2L27010-CCB4	Cyanide	-1.22	2.50	10.0	ug/L	U	EPA 9010C/9012B
CCB	2L27010-CCB5	Cyanide	-0.730	2.50	10.0	ug/L	U	EPA 9010C/9012B



EPA 6010C

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L30001

Instrument ID: P4

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2L30001-ICB1	Barium	-0.343	66.5	200	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Chromium	0.364	3.76	10.0	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Cobalt	7.59	7.33	20.0	ug/L	J	EPA 6010C
ICB	2L30001-ICB1	Copper	-0.318	0.910	5.00	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Iron	11.2	69.4	200	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Nickel	0.695	3.43	10.0	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Silver	0.0287	2.02	5.00	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Vanadium	0.660	6.52	20.0	ug/L	U	EPA 6010C
ICB	2L30001-ICB1	Zinc	-0.0988	10.2	30.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Barium	-0.117	66.5	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Chromium	0.0396	3.76	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Cobalt	6.13	7.33	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Copper	-1.46	0.910	5.00	ug/L	J	EPA 6010C
CCB1	2L30001-CCB1	Iron	8.67	69.4	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Nickel	0.797	3.43	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Silver	0.220	2.02	5.00	ug/L	U	EPA 6010C
·CCB1	2L30001-CCB1	Vanadium	0.692	6.52	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB1	Zinc	-0.626	10.2	30.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Barium	-0.0676	66.5	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Chromium	0.193	3.76	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Cobalt	4.78	7.33	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Copper	-3.25	0.910	5.00	ug/L	J	EPA 6010C
CCB1	2L30001-CCB2	Iron	6.96	69.4	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Nickel	0.367	3.43	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Silver	0.449	2.02	5.00	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Vanadium	0.820	6.52	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB2	Zinc	-0.562	10.2	30.0	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Barium		66.5	200	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Chromium		3.76	10.0	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Cobalt		7.33	20.0	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Copper	-2.95	0.910	5.00	ug/L	J	EPA 6010C
PBW	2122410-BLK1	Iron		69.4	200	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Nickel		3,43	10.0	ug/L	U	EPA 6010C



Compu Chem

Liberty Analytical Corp.

EPA 6010C

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: <u>LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY</u>

Sequence: 2L30001

Instrument ID: P4

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
PBW	2122410-BLK1	Silver		2.02	5.00	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Vanadium		6.52	20.0	ug/L	U	EPA 6010C
PBW	2122410-BLK1	Zinc		10.2	30.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Barium	-0.0927	66.5	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Chromium	-0.367	3.76	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Cobalt	5.98	7.33	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Copper	-3.47	0.910	5.00	ug/L	J	EPA 6010C
CCB1	2L30001-CCB3	Iron	7.96	69.4	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Nickel	0.287	3.43	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Silver	0.507	2.02	5.00	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Vanadium	0.976	6.52	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB3	Zinc	-0.614	10.2	30.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Barium	-0.143	66.5	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Chromium	0.173	3.76	10.0	ug/L	U ,	EPA 6010C
CCB1	2L30001-CCB4	Cobalt	7.13	7.33	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Copper	-3.82	0.910	5.00	ug/L	J	EPA 6010C
CCB1	2L30001-CCB4	Iron	12.0	69.4	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Nickel	0.811	3.43	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Silver	-0.0478	2.02	5.00	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Vanadium	0.363	6.52	20.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB4	Zinc	-0.404	10.2	30.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB5	Barium	-0.0226	66.5	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB5	Chromium	0.559	3.76	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB5	Cobalt	7.98	7.33	20.0	ug/L	J	EPA 6010C
CCB1	2L30001-CCB5	Copper	-3.67	0.910	5.00	ug/L	J	EPA 6010C
CCB1	2L30001-CCB5	Iron	10.0	69.4	200	ug/L	U	EPA 6010C
CCB1	2L30001-CCB5	Nickel	0.533	3.43	10.0	ug/L	U	EPA 6010C
CCB1	2L30001-CCB5	Silver	0.507	2.02	5.00	ug/L	U	EPA 6010C
CCB1	2L30001-CCB5	Vanadium	0.498	6.52	20.0	ug/L	U.	EPA 6010C
CCB1	2L30001-CCB5	Zinc	-0.215	10.2	30.0	ug/L	U	EPA 6010C



DUPLICATES

EPA 6020A

1R-44817D

Client: CDM FEDERAL PROGRAMS CORP.

Lab ID: 2122409-DUP1

% Solid: NA

SDG: 1212075

Matrix: Water

Project: <u>LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY</u>

Lab Source ID: <u>1212075-01</u>

Source Sample: <u>1R-44817</u>

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD %	Q	METHOD
Antimony (dissolved)	20	2.00 U	2.00 U			EPA 6020A
Arsenic (dissolved)	20	1.00 U	0.713 J			EPA 6020A
Beryllium (dissolved)	20	1.00 U	1.00 U			EPA 6020A
Cadmium (dissolved)	20	1.00 U	0.0784 J			EPA 6020A
Lead (dissolved)	20	1.00 U	1.00 U			EPA 6020A
Selenium (dissolved)	20	5.00 U	5.00 U			EPA 6020A
Thallium (dissolved)	20	1.00 U	1.00 U			EPA 6020A



DUPLICATES EPA 6010C

1R-44817D

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: <u>2122410-DUP1</u> % Solid: <u>NA</u> Matrix: <u>Water</u> Lab Source ID: <u>1212075-01</u> Source Sample: <u>1R-44817</u>

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD %	Q	метнор
Barium (dissolved)	20	200 U	200 U			EPA 6010C
Chromium (dissolved)	20	10.0 U	10.0 U			EPA 6010C
Cobalt (dissolved)	20	20.0 U	20.0 U			EPA 6010C
Copper (dissolved)	20	5.00 U	5.00 U			EPA 6010C
Iron (dissolved)	20	200 U	200 U			EPA 6010C
Nickel (dissolved)	20	10.0 U	5.73 J			EPA 6010C
Silver (dissolved)	20	5.00 U	5.00 U			EPA 6010C
Vanadium (dissolved)	20	20.0 U	20.0 U			EPA 6010C
Zinc (dissolved)	20	30.0 U	30.0 U			EPA 6010C



DUPLICATES EPA 7470A

1R-44817D

Client: CDM FEDERAL PROGRAMS CORP.

Lab ID: 2122411-DUP1

% Solid: NA

SDG: <u>1212075</u>

Matrix: Water

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab Source ID: 1212075-01

Source Sample: <u>1R-44817</u>

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD %	Q	METHOD
Mercury	20	0.200 U	0.0770 Ј			EPA 7470A



DUPLICATES

EPA 9010C/9012B

1R-44817D

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122608-DUP2

% Solid:

Matrix: Water

Lab Source ID: 1212075-01RE1 Source Sample: 1R-44817

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD %	Q	METHOD .
Cyanide	20	10.0 U	10.5	86.9		EPA 9010C/9012B



EPA 6020A

1R-44817S

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122409-MS1

% Solid: NA

Matrix: Water

Lab Source ID: 1212075-01

Source Sample: 1R-44817

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Antimony (dissolved)	100.0	2.00 U	90.1	90.0		75 - 125
Arsenic (dissolved)	40.00	1.00 U	45.1	111		75 - 125
Beryllium (dissolved)	50.00	1.00 U	45.0	90.0		75 - 125
Cadmium (dissolved)	50.00	1.00 U	46.2	92.3		75 - 125
Lead (dissolved)	20.00	1.00 U	20.1	100		75 - 125
Selenium (dissolved)	10.00	5.00 U	9.32	92.5		75 - 125
Thallium (dissolved)	50.00	1.00 U	49.1	98.2	\Box	75 - 125

	SPIKE					QC LIMITS		
ANALYTE	ADDED (ug/L)	CONCENTRATION (ug/L)	% REC. #	% RPD	Q	RPD	REC.	
Antimony (dissolved)	100.0	88.7	88.7	1.47		20	75 - 125	
Arsenic (dissolved)	40.00	45.8	113	1.72		20	75 - 125	
Beryllium (dissolved)	50.00	45.7	91.4	1.57		20	75 - 125	
Cadmium (dissolved)	50.00	46.8	93.3	1.10		20	75 - 125	
Lead (dissolved)	20.00	20.2	101	0.799		20	75 - 125	
Selenium (dissolved)	10.00	9.50	94.3	1.94		20	75 - 125	
Thallium (dissolved)	50.00	50.1	100	1.95		20	75 - 125	



EPA 6010C

1R-44817S

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: <u>LIBBY ASBESTOS TO-14/6402,DK1.002,SAMPL-14 DAY</u>

Lab ID: 2122410-MS1

% Solid: NA

Matrix: Water

Lab Source ID: 1212075-01

Source Sample: <u>1R-44817</u>

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Barium (dissolved)	2000	200 U	2080	103		75 - 125
Chromium (dissolved)	200.0	10.0 U	205	102		75 - 125
Cobalt (dissolved)	500.0	20.0 U	500	98.8		75 - 125
Copper (dissolved)	250.0	5.00 U	240	95.9		75 - 125
Iron (dissolved)	1000	200 U	982	98.2		75 - 125
Nickel (dissolved)	500.0	10.0 U	504	99.7		75 - 125
Silver (dissolved)	50.00	5.00 U	48.4	96.2		75 - 125
Vanadium (dissolved)	500.0	20.0 U	500	100		75 - 125
Zinc (dissolved)	500.0	30.0 U	499	99.2		75 - 125

	SPIKE	MSD	MSD			QC	LIMITS
ANALYTE	ADDED (ug/L)	CONCENTRATION (ug/L)	% REC.#	% RPD	Q	RPD	REC.
Barium (dissolved)	2000	2050	101	1.52		20	75 - 125
Chromium (dissolved)	200.0	201 99.7 2.26 20		75 - 125			
Cobalt (dissolved)	500.0	493	97.4	1.37		20	75 - 125
Copper (dissolved)	250.0	233	93.3	2.66		20	75 - 125
Iron (dissolved)	1000	957	95.7	2.59		20	75 - 125
Nickel (dissolved)	500.0	496	98.0	1.77		20	75 - 125
Silver (dissolved)	50.00	47.3	93.9	2.45		20	75 - 125
Vanadium (dissolved)	500.0	491	98.2	1.82		20	75 - 125
Zinc (dissolved)	500.0	489	97.3	1.95		20	75 - 125



EPA 7470A

1R-44817S

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122411-MS1

% Solid: NA

Matrix: Water

Lab Source ID: 1212075-01

Source Sample: <u>1R-44817</u>

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Mercury	1.000	0.200 U	1.19	119		75 - 125

	SPIKE			0/	QC LIMITS	
ANALYTE	(ug/L)	(ug/L)			REC.	
Mercury	1.000	1.07	107	· 11	20	75 - 125



EPA 9010C/9012B

1R-44817S

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122608-MS2

% Solid: NA

Matrix: Water

Lab Source ID: 1212075-01RE1 Source Sample: 1R-44817

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Cyanide	100.0	10.0 U	94.2	90.0		75 - 125

	SPIKE			٥,		QC LIMITS	
ANALYTE	ADDED (ug/L)	CONCENTRATION (ug/L)	% REC. #	% RPD	Q	RPD	REC.
Cyanide	100.0	73.1	69.0	25.2	* *	20	75 - 125



SERIAL DILUTION

EPA 6020A

1R-44817L

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2L26017-SRD5

Matrix: Water

Lab Source ID: 1212075-01 Source Sample: 1R-44817

Sequence: 2L26017

Dilution: 5

Report to MDL: NO

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	RL	% Difference	Q	Method	QC Limits % Difference
Antimony (dissolved)	2.00 U		2.00			EPA 6020A	10
Arsenic (dissolved)	1.00 U		1.00			EPA 6020A	10
Beryllium (dissolved)	1.00 U	5.00 U	1.00			EPA 6020A	10
Cadmium (dissolved)	1.00 U	-	1.00			EPA 6020A	10
Lead (dissolved)	1.00 U	5.00 U	1.00			EPA 6020A	10
Selenium (dissolved)	5.00 U	25.00 U	5.00			EPA 6020A	10
Thallium (dissolved)	1.00 U	5.00 U	1.00			EPA 6020A	10



SERIAL DILUTION

EPA 6010C

1R-44817L

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: <u>2L30001-SRD2</u>

Matrix: Water

Lab Source ID:

1212075-01

Source Sample: <u>1R-44817</u>

Sequence: 2L30001

Dilution: 5

Report to MDL: NO

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	RL	% Difference	Q	Method	QC Limits % Difference
Barium (dissolved)	200.00 U	1000.00 U	200			EPA 6010C	10
Chromium (dissolved)	10.00 U	50.00 U	10.0			EPA 6010C	10
Cobalt (dissolved)	20.00 U	100.00 U	20.0			EPA 6010C	10
Copper (dissolved)	5.00 U	25.00 U	5.00			EPA 6010C	10
Iron (dissolved)	200.00 U	1000.00 U	200			EPA 6010C	10
Nickel (dissolved)	10.00 U	50.00 U	10.0			EPA 6010C	10
Silver (dissolved)	5.00 U	25.00 U	5.00			EPA 6010C	10
Vanadium (dissolved)	20.00 U	100.00 U	20.0			EPA 6010C	10
Zinc (dissolved)	30.00 U	150.00 U	30.0			EPA 6010C	10



EPA 6020A

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122409-BS1 Matrix: Water Client ID: LCSW Batch: 2122409

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Antimony (dissolved)	220.0	214	97.3		80 - 120
Arsenic (dissolved)	220.0	244	111		80 - 120
Beryllium (dissolved)	110.0	113	103		80 - 120
Cadmium (dissolved)	110.0	111	101		80 - 120
Lead (dissolved)	220.0	221	101		80 - 120
Selenium (dissolved)	220.0	235	107		80 - 120
Thallium (dissolved)	220.0	225	102		80 - 120



EPA 6010C

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122410-BS1 Matrix: Water Client ID: LCSW Batch: 2122410

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Barium (dissolved)	550.0	533	96.9		80 - 120
Chromium (dissolved)	550.0	534	97.1	: [80 - 120
Cobalt (dissolved)	550.0	526	95.7		80 - 120
Copper (dissolved)	550.0	516	93.8	1	80 - 120
Iron (dissolved)	5100	4870	95.5		80 - 120
Nickel (dissolved)	550.0	527	95.9		80 - 120
Silvēr (dissolved)	550.0	507	92.3		80 - 120
Vanadium (dissolved)	550.0	527	95.7		80 - 120
Zinc (dissolved)	1100	1040	94.4		80 - 120



EPA 7470A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122411-BS1

Matrix: Water

Client ID: LCSW

Batch: 2122411

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Mercury	4.000	4.31	108		80 - 120



EPA 9010C/9012B

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122608-BS1

Matrix: Water

Client ID: LCSW

Batch: 2122608

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Cyanide	99.00	96.5	97.5		85 - 115



Laboratory:

COMPUCHEM

SDG:

1212075

<u>C2</u>

Client:

CDM FEDERAL PROGRAMS CORP.

Project:

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix:

WATER

Instrument:

Analyte	MDL	RL	Units	Method
Cyanide	2.5	10.00	ug/L	EPA 9010C/9012B



Laboratory:

COMPUCHEM

SDG:

1212075

Client:

CDM FEDERAL PROGRAMS CORP.

Project:

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix:

Water

Instrument: P4

Analyte	MDL	RL	Units	Method
Barium (dissolved)	66.5	200.00	ug/L	EPA 6010C
Chromium (dissolved)	3.76	10.00	ug/L	EPA 6010C
Cobalt (dissolved)	7.33	20.00	ug/L	EPA 6010C
Copper (dissolved)	0.91	5.00	ug/L	EPA 6010C
Iron (dissolved)	69.4	200.00	ug/L	EPA 6010C
Nickel (dissolved)	3.43	10.00	ug/L	EPA 6010C
Silver (dissolved)	2.02	5.00	ug/L	EPA 6010C
Vanadium (dissolved)	6.52	20.00	ug/L	EPA 6010C
Zinc (dissolved)	10.2	30.00	ug/L	EPA 6010C



Laboratory:

COMPUCHEM

SDG:

1212075

Client:

CDM FEDERAL PROGRAMS CORP.

Project:

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix:

Water

Instrument:

<u>PEMS</u>

Analyte	MDL	RL	Units	Method
Antimony (dissolved)	0.026	2.00	ug/L	EPA 6020A
Arsenic (dissolved)	0.14	1.00	ug/L	EPA 6020A
Beryllium (dissolved)	0.033	1.00	ug/L	EPA 6020A
Cadmium (dissolved)	0.011	1.00	ug/L	EPA 6020A
Lead (dissolved)	0.021	1.00	ug/L	EPA 6020A
Selenium (dissolved)	0.09	5.00	ug/L	EPA 6020A
Thallium (dissolved)	0.015	1.00	ug/L	EPA 6020A



Laboratory:

COMPUCHEM

SDG:

1212075

<u>V4</u>

Client:

CDM FEDERAL PROGRAMS CORP.

Project:

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix:

Water

Instrument:

Analyte	MDL	RL	Units	Method
Mercury	0.0355	0.20	ug/L	EPA 7470A



EPA 6020A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Batch: 2122409

Matrix: Water

Preparation: EPA 3005A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
1R-44817	1212075-01	12/26/12 10:30	100	100
1R-44818	1212075-02	12/26/12 10:30	100	100
1R-45180	1212075-04	12/26/12 10:30	100	100
1R-44819	1212075-05	12/26/12 10:30	100	100
PBW	2122409-BLK1	12/26/12 10:30	100	100
LCSW	2122409-BS1	12/26/12 10:30	100	100
1R-44817D	2122409-DUP1	12/26/12 10:30	100	100
1R-44817S	2122409-MS1	12/26/12 10:30	100	100
1R-44817SD	2122409-MSD1	12/26/12 10:30	100	100
1R-44817A	2122409-PS1	12/26/12 10:30	100	100



EPA 6010C

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Batch: 2122410

Matrix: Water

Preparation: EPA 3010A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
1R-44817	1212075-01	12/26/12 11:10	50.0	50.0
1R-44818	1212075-02	12/26/12 11:10	50.0	50.0
1R-45180	1212075-04	12/26/12 11:10	50.0	50.0
1R-44819	1212075-05	12/26/12 11:10	50.0	50.0
PBW	2122410-BLK1	12/26/12 11:10	50.0	50.0
LCSW	2122410-BS1	12/26/12 11:10	50.0	50.0
1R-44817D	2122410-DUP1	12/26/12 11:10	50.0	50.0
IR-44817S	2122410-MS1	12/26/12 11:10	50.0	50.0
IR-44817SD	2122410-MSD1	12/26/12 11:10	50.0	50.0
1R-44817A	2122410-PS1	12/26/12 11:10	50.0	50.0



EPA 7470A

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Batch: 2122411

Matrix: Water

Preparation: EPA 7470A Prep

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
1R-44817	1212075-01	12/26/12 11:10	100	100
1R-44818	1212075-02	12/26/12 11:10	100	100
1R-45180	1212075-04	12/26/12 11:10	100	100
1R-44819	1212075-05	12/26/12 11:10	100	100
PBW	2122411-BLK1	12/26/12 11:10	100	100
LCSW	2122411-BS1	12/26/12 11:10	100	100
1R-44817D	2122411-DUP1	12/26/12 11:10	100	100
IR-44817S	2122411-MS1	12/26/12 11:10	100	100
1R-44817SD	2122411-MSD1	12/26/12 11:10	100	100



EPA 9010C/9012B

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: <u>LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY</u>

Batch: 2122608

Matrix: Water

Preparation: 9010C

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
1R-44817	1212075-01RE1	12/26/12 15:15	50.0	50.0
1R-44818	1212075-02	12/26/12 15:15	50.0	50.0
1R-45180	1212075-04	12/26/12 15:15	50.0	50.0
1R-44819	1212075-05	12/26/12 15:15	50.0	50.0
PBW	2122608-BLK1	12/26/12 15:15	50.0	50.0
LCSW	2122608-BS1	12/26/12 15:15	50.0	50.0
1R-44817D	2122608-DUP2	12/26/12 15:15	50.0	50.0
1R-44817S	2122608-MS2	12/26/12 15:15	50.0	50.0
1R-44817SD	2122608-MSD2	12/26/12 15:15	50.0	50.0





TRACY DODGE
CDM FEDERAL PROGRAMS CORP.
60 Port Blvd., Suite 201

Libby, MT 59923

Subject:

Report of Data - Project: LIBBY ASBESTOS TO-14/6402.DK1.002.S WorkOrder: 1212075

Attn.: TRACY DODGE

Enclosed are the results of analytical work performed in accordance with the referenced account number. This report covers sample(s) appearing on the listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097

Sincerely,

Compuchem

a division of Liberty Analytical Corporation

Attachment

TOTAL NUMBER
OF PAGES _____

CompuChem, a division of Liberty Analytical

Client: CDM FEDERAL PROGRAMS CORP.

Work: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sdg:

1212075

Lab ID	Client ID	Matrix	Date Sampled	Date Received
1212075-01	1R-44817	Water	12/18/2012 13:43	12/21/2012 10:37
1212075-02	1R-44818	Water	12/19/2012 12:59	12/21/2012 10:37
1212075-03	TB-1	Water	12/18/2012 00:00	12/21/2012 10:37
1212075-04	1R-45180	Water	12/20/2012 11:20	12/22/2012 11:24
1212075-05	1R-44819	Water	12/20/2012 11:35	12/22/2012 11:24
1212075-06	TB-2	Water	12/18/2012 00:00	12/22/2012 11:24

ANALYSES DATA PACKAGE COVER PAGE

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Laboratory: COMPUCHEM

SDG: 1212075

Client Sample Id:	Lab Sample Id:		
<u>1R-44817</u>	<u>1212075-01</u>		
<u>1R-44818</u>	1212075-02		
<u>TB-1</u>	<u>1212075-03</u>		
<u>1R-45180</u>	<u>1212075-04</u>		
<u>1R-44819</u>	<u>1212075-05</u>		
<u>TB-2</u>	1212075-06		

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the Electronic Data Deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Patricia a Murghy

Name: Pat Murphy

Date: 12/28/2012

Title:

Senior Chemist



CompuChem

A division of Liberty Analytical Corporation 501 Madison Avenue Cary, N.C. 27513 Tel: 919/379-4100 Fax: 919/379-4050

SDG NARRATIVE SDG # 1212075 PROTOCOL: SW-846

SAMPLE IDENTIFICATIONS:

1R-44817

1R-44818

TB-1

1R-45180

1R-44819

TB-2

The 7 aqueous samples listed above were received intact, refrigerated between 0.3°C and 1.5°C, with proper documentation, in sealed shipping containers, on December 21 and 22, 2012. All samples listed above were scheduled for the requested analyses of the volatile fraction. SW-846, 3rd Edition, Update 3, 8260B was used to prepare and analyze the samples, with the exceptions and/or additions requested by the client. All pertinent Quality Assurance notices are included in the narrative section, and all pertinent Laboratory notices are included in the sample data sections.

Analysis holding time requirements were met for the samples.

The pH values of the samples were equal to 1.

There were volatile Project/Target Compound List (TCL) analytes identified above the Contract Required Quantitation Limit (CRQL) in one of these samples.

All of the system monitoring compounds met recovery criteria in the analyses of the samples.

All of the internal standards met response and retention time criteria in the analyses of the samples.

All Bromofluorobenzene (BFB) abundance criteria were met for tunes associated to this SDG.

All QC criteria were met for all initial and continuing calibration standards associated to this SDG.

The associated method blanks met quality control criteria.

The associated Laboratory Control Samples (LCS/LCSD) met quality control criteria.

1R-44817 was used as the original to prepare the duplicate matrix spikes as requested. The associated duplicate matrix spikes met all of the advisory accuracy and precision criteria.

I certify that this data package complies with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Furthermore, I certify that the tests used in this report meet all requirements of the NELAC standards unless otherwise stated in the SDG narrative or QA notice. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Senior Scientist

December 28, 2012

	GC and C	C/MS Column and Trap	Specific	ations Tab	ole					
										
			-			_	-			
	_									
			СО	LUMNS						
Columns	Brand Name	Coating	+	ID	Film Thickr	ness	Length			
Utilized	Drane realis	Material		(mm)	(um)		(m)			
-		- material		()						
	GC Laboratory	,								
DRO/ORO	Restek	RTX-5	-	0.53	1.0		30			
DRO/ORO	Restek	RTX-SMS	+	0.53	1.0	_	30			
	Restek	clpest	+	0.32	0.5	+	30			
	Restek	clpest2	-	0.32	0.42		30			
·V	J&W	DB-210		0.52	1.0		30			
RSK	J&W	GS-GASPRO	+	0.32	N/A		30			
	- 1 - 1 - 1					-	-			
	GC Volatiles L	aboratory								
GRO	Restek	RTX-Volatiles		0.53	2.0		30			
0.10	Rester	N1X Volutios		0.55	2.0		- 30			
	GC/MS Volatiles Laboratory									
	Restek RTX-VMS			0.18	1.0		20			
	Supelco	SPB-624		0.32	1.8		60			
	Supelco	SPB-624		0.53	3.0		75			
	Phenomonex	ZB-624	1	0.32	1.8		60			
	GC/MS Semivolatiles Laboratory									
	Restek	RTX-5SII MS	T	0.32	0.25		30			
	Phenomonex	ZB-5MS		0.32	0.25		30			
	HPLC Laboratory									
PAH	Supelco	Supelcosil LC-PAH		4.6	5.0		15 cm			
PAH	Supelco	Discovery RP Amide	C16	4.6	5.0		25 cm			
EXP	Restek	Pinnacle Cyano		4.6	5.0		25 cm			
EXP	Restek	Allure C18		4.6	5.0		25 cm			
			TI	RAPS						
	GC and GC/MS	Volatiles Laboratory			'					
				cm Carbo	pack C					
	,			* 1.2 cm Carbopack B						
√	Supelco K (Vocarb3000)			* 10 cm of Carbopack B (Graphitized Carbons)						
			* 6 cm of Carboxen 1000 (Carbon molecular sieves)							
			* 1 0	* 1 cm of Carboxen 1001 (Carbon molecular sieves)						

This table contains the GC columns (and volatile organic trap) used for the analysis of volatiles, semivolatiles, pesticides, and Aroclors by the requested analytical methods. Please see the SDG Narrative(s) for the specific fraction(s) relative to this SDG.

Note: This table also contains HPLC columns.

CompuChem

A division of Liberty Analytical Corporation

CompuChem's Pagination Convention

As required by the EPA CLP Statement of Work (SOW) documents, data to be delivered must be paginated (by machine or hand). In the event that the initial numbering is incorrect (a page numbered twice or a page skipped, for example), it is CompuChem's policy to add an alphabetic suffix to a page number when necessary (e.g., 100A, 100B, etc.). This policy is also applicable to non-CLP data packages.

Revision 7 (01/12/2011)

CompuChem

A division of Liberty Analytical Corporation

Notification Regarding Manual Editing/Integration Flags

In some instances, manual adjustments to the software output are necessary to provide accurate data. These manual integrations are performed by the data reviewers, GC/MS operators, or GC/HPLC chemists. An Extracted Ion Current Profile (EICP) or a GC/HPLC chromatographic peak has been provided for the manual integration performed on each compound to demonstrate the accuracy of that process. The manual integrations are flagged on the quantitation report in the far right column beyond the FINAL concentration for GC/MS analysis, and in the "Flags" column for GC/HPLC analysis. The manual editing/integration flags are:

- M Denotes that a manual integration has been performed for this compound. The manual integration was performed in order to provide the most accurate area count possible for the peak. The most common reasons for performing manual integrations/editing are: the compound was not found by the automatic integration routine, the compound was incorrectly integrated by the automatic integration routine, and the co-eluting compounds were incorrectly integrated by the automatic integration routine.
- H Denotes that the data reviewer, GC/MS operator, or GC/HPLC Chemist has chosen an alternate peak within the retention time window from that chosen by the software for that compound. No manual integration is performed in choosing an alternate peak. The software still performs the integration.
- MH Denotes that an alternate peak has been chosen within the retention time window from that chosen by the software for that compound and also a manual integration of the chosen peak has been performed. The manual integration was performed in order to provide the most accurate area count possible for the peak.
- L Denotes that a data reviewer or GC/MS operator has selected an alternate library search. This is typically done when an additional tentatively identified compound (TIC) has been added to the number of peaks searched. No manual integration is performed in choosing an alternate peak. The software still performs the integration.
- ML Denotes that an alternate GC/MS library search has been selected and a manual integration has also been performed. This is typically done when an additional TIC has been added and the TIC peak also required a manual integration.

These codes will appear in the GC/MS and GC/HPLC raw data.

Revision 8 (01/29/2011)

CompuChem

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DATA REPORTING QUALIFIERS

On the appropriate reporting form, under the column labeled "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. Up to five qualifiers may be reported on the appropriate reporting form for each compound. The qualifiers used are:

- U: This flag indicates the compound was analyzed for but not detected. The Contract Required Quantitation Limit (CRQL), or reporting limit, will be adjusted to reflect any dilution and, for soils, the percent moisture.
- J: This flag indicates an estimated value. The flag is used as detailed below:
 - 1. When estimating a concentration for tentatively identified compounds (TICs) where a response factor of 1:1 is assumed for the TIC analyte,
 - 2. When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the adjusted CRQL (or Reporting Limit) but greater than zero, and
 - 3. When the retention time data indicate the presence of a compound that meets the pesticide and/or Aroclor or other GC or HPLC identification criteria, and the result is less than the adjusted CRQL (or Reporting Limit) but greater than zero. For example, if the CRQL (or Reporting Limit) is $10 \,\mu\text{g/L}$, but a concentration of $3 \,\mu\text{g/L}$ is calculated, it is reported as 3J.
- N: This flag indicates presumptive evidence of a compound. This flag is only used for TICs, where the identification is based on a mass spectral library search and must be used with the J flag. For generic characterization of a TIC such as "chlorinated hydrocarbon" (or for an "unknown," with no matches ≥85%), the N flag is not used.
- P: In the EPA's Contract Laboratory Program (CLP), this flag is used for a pesticide/Aroclor target analyte, when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the Form I and flagged with a P. For SW-846 GC and HPLC analyses, when the Relative Percent Difference (RPD) is greater than 40% and there is no evidence of chromatographic anomalies or interferences, then the lower of the two values is reported and flagged with a P on the reporting form. When the RPD is equal to or less than 40%, our policy is to also report the lower of the two values, although the choice could be a project specific issue. These SW-846 policies are consistent with Method 8000C. If Method 8000B is required, the higher of the two values is reported. For certain HPLC analyses, if one of the HPLC columns displays co-elution of target analytes, all results are reported from a primary column displaying no co-elution. Results are still flagged with a P if the RPD between columns is greater than 40%.
- C: This flag applies to GC or HPLC results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, this flag is not applied; a laboratory-defined flag is used instead (see the X/Y/Z qualifier.)

DATA REPORTING QUALIFIERS (continued)

- B: This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC as well as for a positively identified target compound. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged B only when they are detected in the sample.
- E: This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a concentration greater than the upper level of the calibration range, the sample or extract will be diluted and reanalyzed. All such compounds with a concentration greater than the upper level of the calibration range will have the result flagged with an E on the appropriate reporting form for the original analysis.
- D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on the appropriate reporting form for the more diluted sample, and all reported concentrations on that form are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract.
- NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis i.e. compounds reported with the CRQL (or Reporting Limit) and the U flag.
- NOTE 2: Separate reporting forms are used for reporting the original analysis (Client Sample No. XXXXX) and the more diluted sample analysis (Client Sample No. XXXXXDL) i.e. the results from both analyses are not combined on a single reporting form.
- A: This flag indicates that a TIC is a suspected aldol-condensation product.
- S: In the SOM01.2 SOW document, this flag is used to indicate an estimated value for Aroclor target compounds where a valid 5-point initial calibration was not performed prior to the analytes detection in a sample. If an "S" flag is used for a specific Aroclor, then a reanalysis of the sample is required after a valid 5-point calibration is performed for the detected Aroclor. The "S" flag is not utilized for non CLP analyses.
- X/Y/Z: Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y, and Z.



CHAIN OF CUSTODY

Page ____ of ___

501 Madison Ave. Cary, NC 27513 Phone: 919-379-4100 Fax 919-379-4040 Courier Fol-Ex - 7943 6036 1831 Airbill No. 7943 6038 7989 Sampling Complete? Y or N 7943 6130 5246

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Liberty Analytical Corp.

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501 Madison Ave.

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501 Madison Ave. Cary, NC 27513

Cary, NC 27513 Phone: 919-379-4100 Fax 919-379-4040 Courier Fed-Ex - 7943 6036 1831 Airbill No. 7943 6038 7989

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501 Madison Ave. Cary, NC 27513

Courier Fed - Ex - 7943 6036 183 Airbill No. 7943 6038 7989

White & Yellow copy to lab . Pink copy for customer

Sampling Complete? Y or (N) 7943 6220 524 Phone: 919-379-4100 Fax 919-379-4040 ested Analysis (include method and bottle type) Client/Reporting Information Project Information Company Name
Com Smith GW Ground water Project Name WW - Waste water Sampling Location SW - Surface water Address SO - Soil/Sediment TB) Trip Blank Turnaround time RI - Rinsate WP - Wipe O - Other Are aqueous samples field filtered for metals? Y or N Are high concentrations expected? Y or V If yes, which ID(s)? pH / Sample Info Sampler's Name (Lab Use) Number of Preserved Bottles Collection меон CompuChem No-# of (Lab Use) Field ID Time | Matrix | bottles Date 13:43 GW 36 12:59 GW 0 Lab Use Only Comments Cyanide samples checked for sulfide & chlorine? Y or Sample Unpacked By: Sample Order Entry By: 625 & Phenol samples checked for chlorine? Y or NA Samples Received in Good Condition? Th 608 samples checked for pH between 5.0-9.0? Y or MA If no, explain: Date/Time: 12 21-12 Relinquished by: Date/Time: /2/20/12 13:00 Received by: Relinquished by: Received by; Date/Time: Date/Time: Subcontact? Y or N If yes, where? Custody Seal(s) intact? Yor N On Ice? Y or N Cooler Temp:



CHAIN OF CUSTODY

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Liberty Analytical Corp.

CHAIN OF CUSTODY

501 Madison Ave.

Cary, NC 27513 Phone: 919-379-4100 Fax 919-379-4040 Sampling Complete? Yor N

CI	lient/Reporti	ing Informat	tion	1. VEG#1975		20.00 per	Pro	ect ly	format	òn					Rec	quested	Analysi	s (inclu	de metl	od and	hottle t	ypë)			Matr	
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Sample Order Entry						625 & Ph	enol samp	oles ch	ecked	for chl	orine?	Yor	(A)		L											
Samples Received in	n Good Co	ondition	Y) or N			608 samp	les check	ed for	pH bet	ween :	5.0-9.0)? Y or	NA)		10											
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Subcontact? Y or	N If ves	where? N	MARPI	104 St.	PH /C		DENC.	al.	104	Custo	ody Se				V	On Ice	(Y)	r N			 	r Temp		<u>л, и</u>	<u></u>	ەC.
Samples stored 60 day	s after date	report maile	ed at no extra	charge.	· · · · · · · · · · · · · · · · · · ·	<u>~</u> X	11/4	-/C	N-C	Cust	Juj St	Jui(0)	inacti	-		On ice			w copy	to lab		copy for		omer	,, ,, ,, ,	

Liberty Analytical Corp.

CHAIN OF CUSTODY

501 Madison Ave. Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

Client/R	Reporting Information	1. J. 18. 18. 18.			Pro	ect In	formati	on	6 T.	Gay's	0.002/s	6 K. 1983	Re	quested	Analys	s (inclu	de metl	rod and	bottle ty	(pe)			Matric	
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(Lab Use)	Field ID	Date /2/	Time	Matrix	1	HCI	ž	Ξ			ō.≥	12/2	12	>	-1	-	0/3/		4	1			7-	
	R-45180	129/2	11:20	GW	12	5	1	1	4	0	1	134	1	1	1	\	\	7					\perp	
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Relinquished by:	. 0			Date/Tir	··· /	Ţ				Rece	ived by	y:	\ <u>\</u>						Date/7	Time:				
Subcontact? Y or N/I	f yes, where?							Custo	ody S	eal(s)	intact?	Y)r 1	4	On Ice	(Y)	or N			Coole	r Temp	: /	2,3		°C
Samples stored 60 days afte	er date report mailed at no extra	charge.															w copy	v to lab	• Pink	copy fe				

WORK ORDER

Printed: 12/21/2012 6:23:43PM

1212075

COMPUCHEM

Client: CDM FEDERAL PROGRAMS CORP. Project Manager: Cathy Dover

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA Project Number: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I SDG: 1212075 CASE: Status: Received

Report To: Invoice To:

CDM FEDERAL PROGRAMS CORP. CDM FEDERAL PROGRAMS CORP.

PAUL LAMMERS SUBCONTRACT MANAGER

60 PORT BLVD, STE 228 14420 ALBEMARLE POINT PLACE, SUITE 210

LIBBY, MT 59923 CHANTILLY, VA 20151

Phone: - Phone: - Fax: - Fax: -

Date Due: 01/03/2013 00:00 (13 day TAT)

 Received By:
 Cathy Dover
 Date Received:
 12/21/2012 10:37

 Logged In By:
 Cathy Dover
 Date Logged In:
 12/21/2012 12:52

J & B Flags?: NO TICS?: NO Deliverable: Style 3 EDD: 68) LATA EXCEL

Metals ND to? RL/CRQL Spike Level: FULL Spike

USE 1212075-01 FOR QC*VOC 25ML=LIBBY.SUB*6020A MTL=Sb,As,Be,Cd,Pb,Se,T1*6010C MTL=Ba,Ct,Co,Cu,Fe,Ni,Ag,V & Zn*HG 7470A*NO2/NO3 353.2 IN H2SO4 PRES.CONTAINER*IC300=CHL/SO4*CN 9010C/9012B*GENERATE THE CUSTOM NO MDL REPORT

Analysis	Due	TAT	Expires	Received	Comments
1212075-01 1R-44817 [Water] Sa	ampled 12/18/2012 13:	43 East	ern	USE F	OR QC
6010C DISS. METALS VARIABLE Inv	voice 01/03/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
6010C METALS	01/03/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
6020A ICP MS (UPDATE IV)	01/03/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
7470A 7471B Mercury	01/03/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
9010C 9012B CYANIDE	01/03/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/03/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
IC 300 Anions	01/03/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
NITRATE-NITRITE-N 353.2	01/03/2013 16:00	13	02/04/2013 13:43	12/21/2012 10:37	
VOA-8260B 25ML	01/03/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)
1212075-02 1R-44818 [Water] Sa	umnled 12/19/2012 12·	59 East	ern		
6010C METALS	01/03/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
6010C DISS. METALS VARIABLE In	voice 01/03/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
6020A ICP MS (UPDATE IV)	01/03/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
7470A 7471B Mercury	01/03/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
9010C 9012B CYANIDE	01/03/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/03/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
IC 300 Anions	01/03/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
NITRATE-NITRITE-N 353.2	01/03/2013 16:00	13	02/05/2013 12:59	12/21/2012 10:37	
VOA-8260B 25ML	01/03/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)

WORK ORDER

1212075

Printed: 12/21/2012 6:23:43PM

COMPUCHEM

Status:

Expires

Client:

CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA SDG: 1212075

CASE:

Project Manager: Project Number:

Cathy Dover

Comments

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I

Due

1212075-03 TB-1 [Water] Sampled 12/18/2012 00:00 Eastern

TRIP BLK

VOA-8260B 25ML

Analysis

01/03/2013 16:00

01/01/2013 00:00

TAT

12/21/2012 10:37

SubList = VOA - LIBBY (12-31-11)

WORK ORDER

1212075

Printed: 12/22/2012 12:52:57PM

COMPUCHEM

Client: CDM FEDERAL PROGRAMS CORP. Project Manager: Cathy Dover

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA SDG: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I Received LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I Received

Report To: Invoice To:

CDM FEDERAL PROGRAMS CORP. CDM FEDERAL PROGRAMS CORP.

TRACY DODGE SUBCONTRACT MANAGER

60 Port Blvd., Suite 201 14420 ALBEMARLE POINT PLACE, SUITE 210

Libby, MT 59923 CHANTILLY, VA 20151

Phone: (406) 293-8595 Phone:-Fax: - Fax: -

Date Due: 01/04/2013 00:00 (13 day TAT)

 Received By:
 Cathy Dover
 Date Received:
 12/22/2012 11:24

 Logged In By:
 Cathy Dover
 Date Logged In:
 12/21/2012 12:52

J & B Flags?: NO TICS?: NO Deliverable: Style 3 EDD: 68) LATA EXCEL

Metals ND to? RL/CRQL Spike Level: FULL Spike

USE 1212075-01 FOR QC*VOC 25ML=LIBBY.SUB*6020A MTL=Sb,As,Be,Cd,Pb,Se,Tl*6010C MTL=Ba,Cr,Co,Cu,Fe,Ni,Ag,V & Zn*HG 7470A*NO2/NO3 353.2 IN H2SO4 PRES.CONTAINER*IC300=CHL/SO4*CN 9010C/9012B*GENERATE THE CUSTOM NO MDL REPORT

Analysis	Due	TAT	Expires	Received	Comments
1212075-01 1R-44817 [Water] Sa	mpled 12/18/2012 13:	43 East	ern	USE F	OR QC
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/04/2013 13:43	12/21/2012 10:37	
6010C DISS. METALS VARIABLE In	voice 01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
7470A 7471B Mercury	01/04/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
6010C METALS	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
IC 300 Anions	01/04/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
1212075-02 1R-44818 [Water] Sa	mpled 12/19/2012 12:	59 East	ern		
6010C METALS	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
7470A 7471B Mercury	01/04/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
IC 300 Anions	01/04/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/05/2013 12:59	12/21/2012 10:37	
6010C DISS. METALS VARIABLE In	voice 01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
VOA-8260B 25ML	01/04/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)

Printed: 12/22/2012 12:52:57PM

1212075

COMPUCHEM

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA

SDG: CASE:

1212075

Project Manager: Project Number:

Cathy Dover

Status:

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I

Analysis	Due	TAT	Expires	Comments	
1212075-03 TB-1 [Water] Sam	pled 12/18/2012 00:00 E	astern		TRIP	BLK
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 00:00	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)
1212075-04 1R-45180 [Water]	Sampled 12/20/2012 11:	20 Easte	rn		
6010C DISS. METALS VARIABLE	Invoice 01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24	
6010C METALS	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24	
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24	
7470A 7471B Mercury	01/04/2013 16:00	13	01/17/2013 11:20	12/22/2012 11:24	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/03/2013 11:20	12/22/2012 11:24	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24	
IC 300 Anions	01/04/2013 16:00	13	01/17/2013 11:20	12/22/2012 11:24	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/06/2013 11:20	12/22/2012 11:24	
VOA-8260B 25ML	01/04/2013 16:00	13	01/03/2013 11:20	12/22/2012 11:24	SubList = VOA - LIBBY (12-31-11)
1212075-05 1R-44819 [Water]	Sampled 12/20/2012 11:	35 Easte	rn		
6010C DISS. METALS VARIABLE	Invoice 01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24	
VOA-8260B 25ML	01/04/2013 16:00	13	01/03/2013 11:35	12/22/2012 11:24	SubList = VOA - LIBBY (12-31-11)
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24	
7470A 7471B Mercury	01/04/2013 16:00	13	01/17/2013 11:35	12/22/2012 11:24	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/03/2013 11:35	12/22/2012 11:24	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24	
IC 300 Anions	01/04/2013 16:00	13	01/17/2013 11:35	12/22/2012 11:24	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/06/2013 11:35	12/22/2012 11:24	
		13	06/18/2013 11:35	12/22/2012 11:24	
6010C METALS	01/04/2013 16:00	13	00/10/2015 11:55		
6010C METALS 1212075-06 TB-2 [Water] Sam				TRIP I	BLK

SURROGATE STANDARD RECOVERY

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

SDG: <u>1212075</u>

Instrument:

<u>5972hp71</u>

Sequence: 2L27004

Calibration:

2122807

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	Q
Blank (2122704-BLK1) ug/L				
Lab File ID: 2122704-BLK1R71.d	Analyzed	l: 12/27/12 18:	30	
Dibromofluoromethane	5.000	117	65 - 150	
1,2-Dichloroethane-d4	5.000	113	59 - 150	
Toluene-d8	5.000	108	61 - 145	
Bromofluorobenzene	5.000	102	63 - 143	
LCS (2122704-BS1) ug/L				
Lab File ID: 2122704-BS171.d	Analyzed	l: 12/27/12 18::	59	
Dibromofluoromethane	5.000	112	65 - 150	
1,2-Dichloroethane-d4	5.000	117	59 - 150	
Toluene-d8	5.000	100	61 - 145	
Bromofluorobenzene	5.000	99	63 - 143	
LCS Dup (2122704-BSD1) ug/L	•			
Lab File ID: 2122704-BSD1R71.d	Analyzed	l: 12/27/12 20::	39	
Dibromofluoromethane	5.000	114	65 - 150	
1,2-Dichloroethane-d4	5.000	119	59 - 150	
Toluene-d8	5.000	98	61 - 145	
Bromofluorobenzene	5.000	92	63 - 143	
1R-44817 (1212075-01) ug/L				
Lab File ID: 1212075-0171.d	Analyzed	l: 12/27/12 22:2	25	
Dibromofluoromethane	5.000	120	65 - 150	
1,2-Dichloroethane-d4	5.000	125	59 - 150	
Toluene-d8	5.000	104	61 - 145	
Bromofluorobenzene	5.000	105	63 - 143	



SURROGATE STANDARD RECOVERY

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

SDG: <u>1212075</u> Instrument: <u>5972hp71</u>

Sequence: <u>2L27004</u> Calibration: <u>2122807</u>

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	Q
Matrix Spike (2122704-MS1) ug/L				
Lab File ID: 2122704-MS171.d	Analyzed	1: 12/27/12 22::	55	
Dibromofluoromethane	5.000	113	65 - 150	
1,2-Dichloroethane-d4	5.000	125	59 - 150	
Toluene-d8	5.000	100	61 - 145	
Bromofluorobenzene	5.000	97	63 - 143	
Matrix Spike Dup (2122704-MSD1)) ug/L			
Lab File ID: 2122704-MSD171.d	Analyzed	1: 12/27/12 23:2	25	
Dibromofluoromethane	5.000	116	65 - 150	
1,2-Dichloroethane-d4	5.000	119	59 - 150	
Toluene-d8	5.000	97	61 - 145	
Bromofluorobenzene	5.000	97	63 - 143	
1R-44818 (1212075-02) ug/L				
Lab File ID: 1212075-0271.d	Analyzed	l: 12/27/12 23::	54	
Dibromofluoromethane	5.000	121	65 - 150	
1,2-Dichloroethane-d4	5.000	123	59 - 150	
Toluene-d8	5.000	103	61 - 145	
Bromofluorobenzene	5.000	98	63 - 143	
TB-1 (1212075-03) ug/L				
Lab File ID: 1212075-0371.d	Analyzed	1: 12/28/12 00:	24	
Dibromofluoromethane	5.000	121	65 - 150	
1,2-Dichloroethane-d4	5.000	127	59 - 150	
Toluene-d8	5.000	105	61 - 145	
Bromofluorobenzene	5.000	98	63 - 143	



SURROGATE STANDARD RECOVERY

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

SDG: <u>1212075</u> Instrument: <u>5972hp71</u>

Sequence: <u>2L27004</u> Calibration: <u>2122807</u>

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	Q
1R-45180 (1212075-04) ug/L				
Lab File ID: 1212075-0471.d	Analyzed	1: 12/28/12 00::	54	
Dibromofluoromethane	5.000	119	65 - 150	
1,2-Dichloroethane-d4	5.000	131	59 - 150	
Toluene-d8	5.000	103	61 - 145	
Bromofluorobenzene	5.000	103	63 - 143	
1R-44819 (1212075-05) ug/L				
Lab File ID: 1212075-0571.d	Analyzed	1: 12/28/12 01:	23	
Dibromofluoromethane	5.000	127	65 - 150	
1,2-Dichloroethane-d4	5.000	129	59 - 150	
Toluene-d8	5.000	105	61 - 145	
Bromofluorobenzene	5.000	99	63 - 143	
TB-2 (1212075-06) ug/L				
Lab File ID: 1212075-0671.d	Analyzed	1: 12/28/12 01::	53	
Dibromofluoromethane	5.000	131	65 - 150	
1,2-Dichloroethane-d4	5.000	139	59 - 150	
Toluene-d8	5.000	106	61 - 145	
Bromofluorobenzene	5.000	103	63 - 143	



SW 8260B

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122704-BS1 Matrix: Water Client ID: VLCSNJ Batch: 2122704

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Dichlorodifluoromethane	5.000	5.693	114		50 - 150
Chloromethane	5.000	6.044	121		50 - 150
Vinyl chloride	5.000	5.707	114		61 - 150
Bromomethane	5.000	4.075	81		50 - 150
Chloroethane	5.000	5.865	117		54 - 150
Trichlorofluoromethane	5.000	5.364	107		56 - 150
1,1-Dichloroethene	5.000	5.658	113		74 - 143
Acetone	25.00	30.43	122		50 - 150
Iodomethane	5.000	3.527	71		50 - 150
Carbon disulfide	5.000	6.152	123		50 - 150
Methylene chloride	5.000	5.919	118		50 - 139
Acrylonitrile	100.0	53.11	53		50 - 150
trans-1,2-Dichloroethene	5.000	6.012	120		50 - 137
1,1-Dichloroethane	5.000	6.100	122		59 - 138
Vinyl acetate	10.00	10.94	109		50 - 150
cis-1,2-Dichloroethene	5.000	5.404	108		69 - 140
2-Butanone	25.00	25.04	100		65 - 134
Bromochloromethane	5.000	5.262	105		50 - 150
Chloroform	5.000	5.873	117		67 - 147
1,1,1-Trichloroethane	5.000	5.823	116		71 - 137
Carbon tetrachloride	5.000	5.476	110		68 - 145
1,2-Dichloroethane	5.000	5.774	115		61 - 150
Benzene	5.000	5.645	113		68 - 138
Trichloroethene	5.000	5.399	108		55 - 150
1,2-Dichloropropane	5.000	5.596	112		67 - 137



SW 8260B

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122704-BS1 Matrix: Water Client ID: VLCSNJ Batch: 2122704

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	Q	QC LIMITS REC.
Dibromomethane	5.000	4.857	97		50 - 150
Bromodichloromethane	5.000	5.564	111		73 - 142
cis-1,3-Dichloropropene	5.000	5.365	107		74 - 134
4-Methyl-2-pentanone	25.00	22.40	90		66 - 127
Toluene	5.000	5.007	100		60 - 142
trans-1,3-Dichloropropene	5.000	4.820	96		66 - 130
1,1,2-Trichloroethane	5.000	4.922	98		68 - 130
Tetrachloroethene	5.000	4.675	94		65 - 137
2-Hexanone	25.00	21.94	88		53 - 140
Dibromochloromethane	5.000	4.537	91		68 - 137
1,2-Dibromoethane	5.000	4.728	95		73 - 128
Chlorobenzene	5.000	5.025	101		68 - 129
1,1,1,2-Tetrachloroethane	5.000	4.861	97		50 - 150
Ethylbenzene	5.000	5.256	105		67 - 127
m,p-Xylene	10.00	10.39	104		60 - 140
o-Xylene	5.000	5.035	101		60 - 140
Styrene	5.000	4.991	100		66 - 139
Bromoform	5.000	4.381	88		62 - 138
1,1,2,2-Tetrachloroethane	5.000	4.813	96		63 - 122
1,2,3-Trichloropropane	5.000	5.250	105		50 - 150
trans-1,4-Dichloro-2-butene	20.00	19.64	98		50 - 150
1,4-Dichlorobenzene	5.000	5.065	101		69 - 125
1,2-Dichlorobenzene	5.000	4.886	98		71 - 127
1,2-Dibromo-3-chloropropane	5.000	4.881	98		71 - 128
Xylenes (total)	15.00	15.43	103		60 - 140



SW 8260B

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122704-BSD1 Matrix: Water Client ID: VLCSDNJ Batch: 2122704

	SPIKE	LCSD	LCSD	٠,	(QC LIN	итs
ANALYTE	ADDED (ug/L)	CONCENTRATION (ug/L)	% REC.#	% RPD#	RPD	Q	REC.
Dichlorodifluoromethane	5.000	6.064	121	6	25		50 - 150
Chloromethane	5.000	6.194	124	2	25		50 - 150
Vinyl chloride	5.000	6.441	129	12	25		61 - 150
Bromomethane	5.000	4.867	97	18	25		50 - 150
Chloroethane	5.000	5.868	117	0.05	25		54 - 150
Trichlorofluoromethane	5.000	5.636	113	5	25		56 - 150
1,1-Dichloroethene	5.000	5.730	115	1	14		74 - 143
Acetone	25.00	29.33	117	4	25		50 - 150
Iodomethane	5.000	3.943	79	11	25		50 - 150
Carbon disulfide	5.000	6.032	121	2	25		50 - 150
Methylene chloride	5.000	6.164	123	4	25		50 - 139
Acrylonitrile	100.0	56.42	56	6	25		50 - 150
trans-1,2-Dichloroethene	5.000	5.918	118	2	25		50 - 137
1,1-Dichloroethane	5.000	6.217	124	2	25		59 - 138
Vinyl acetate	10.00	11.36	114	4	25		50 - 150
cis-1,2-Dichloroethene	5.000	5.641	113	4	25		69 - 140
2-Butanone	25.00	26.68	107	6	25		65 - 134
Bromochloromethane	5.000	5.705	114	8	25		50 - 150
Chloroform	5.000	6.158	123	5	25		67 - 147
1,1,1-Trichloroethane	5.000	5.977	120	3	25		71 - 137
Carbon tetrachloride	5.000	5.538	111	1	25		68 - 145
1,2-Dichloroethane	5.000	6.111	122	6	25		61 - 150
Benzene	5.000	5.835	117	3	11		68 - 138
Trichloroethene	5.000	5.419	108	0.4	14		55 - 150
1,2-Dichloropropane	5.000	5.637	113	0.7	25		67 - 137



SW 8260B

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122704-BSD1 Matrix: Water Client ID: VLCSDNJ Batch: 2122704

	SPIKE	LCSD	LCSD			QC LIM	IITS
ANALYTE	ADDED (ug/L)	CONCENTRATION (ug/L)	% REC. #	% RPD#	RPD	Q	REC.
Dibromomethane	5.000	5.650	113	15	25		50 - 150
Bromodichloromethane	5.000	5.857	117	5	25		73 - 142
cis-1,3-Dichloropropene	5.000	5.804	116	8	25		74 - 134
4-Methyl-2-pentanone	25.00	23.74	95	6	25		66 - 127
Toluene	5.000	5.075	102	1	13		60 - 142
trans-1,3-Dichloropropene	5.000	5.388	108	11	25		66 - 130
1,1,2-Trichloroethane	5.000	5.178	104	5	25		68 - 130
Tetrachloroethene	5.000	4.991	100	7	25		65 - 137
2-Hexanone	25.00	24.07	96	9	25		53 - 140
Dibromochloromethane	5.000	4.774	95	5	25		68 - 137
1,2-Dibromoethane	5.000	4.778	96	1	25		73 - 128
Chlorobenzene	5.000	5.248	105	4	13		68 - 129
1,1,1,2-Tetrachloroethane	5.000	5.097	102	5	25		50 - 150
Ethylbenzene	5.000	5.445	109	4	25		67 - 127
m,p-Xylene	10.00	10.67	107	3	25		60 - 140
o-Xylene	5.000	5.403	108	7	25		60 - 140
Styrene	5.000	5.244	105	5	25		66 - 139
Bromoform	5.000	4.338	87	1	25		62 - 138
1,1,2,2-Tetrachloroethane	5.000	4.983	100	3	25		63 - 122
1,2,3-Trichloropropane	5.000	5.825	117	10	25		50 - 150
trans-1,4-Dichloro-2-butene	20.00	20.70	104	5	25		50 - 150
1,4-Dichlorobenzene	5.000	5.056	101	0.2	25		69 - 125
1,2-Dichlorobenzene	5.000	4.844	97	0.9	25		71 - 127
1,2-Dibromo-3-chloropropane	5.000	4.703	94	4	25		71 - 128
Xylenes (total)	15.00	16.07	107	4	25		60 - 140



SW 8260B

1R-44817MS

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: <u>2122704-MS1</u> % Solid: <u>NA</u> Matrix: <u>Water</u> Lab Source ID: <u>1212075-01</u> Source Sample: <u>1R-44817</u>

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Dichlorodifluoromethane	5.000	0.50 U	6.044	121		50 - 150
Chloromethane	5.000	0.50 U	6.547	131		50 - 150
Vinyl chloride	5.000	0.50 U	6.255	125		61 - 150
Bromomethane	5.000	0.50 U	5.001	100		50 - 150
Chloroethane	5.000	0.50 U	6.161	123		54 - 150
Trichlorofluoromethane	5.000	0.50 U	5.517	110		56 - 150
1,1-Dichloroethene	5.000	0.50 U	5.445	109		74 - 143
Acetone	25.00	2.5 U	28.76	115		50 - 150
Iodomethane	5.000	0.50 U	3.366	67		50 - 150
Carbon disulfide	5.000	0.50 U	6.258	125		50 - 150
Methylene chloride	5.000	0.50 U	6.426	129		50 - 139
Acrylonitrile	100.0	5.0 U	53.90	54		50 - 150
trans-1,2-Dichloroethene	5.000	0.50 U	5.837	117		50 - 137
1,1-Dichloroethane	5.000	0.50 U	6.345	127		59 - 138
Vinyl acetate	10.00	1.0 U	11.21	112		50 - 150
cis-1,2-Dichloroethene	5.000	0.50 U	5.690	114		69 - 140
2-Butanone	25.00	2.5 U	25.75	103		65 - 134
Bromochloromethane	5.000	0.50 U	5.645	113		50 - 150
Chloroform	5.000	0.50 U	6.004	120		67 - 147
1,1,1-Trichloroethane	5.000	0.50 U	5.834	117		71 - 137
Carbon tetrachloride	5.000	0.50 U	5.454	109		68 - 145
1,2-Dichloroethane	5.000	0.50 U	6.088	122		61 - 150
Benzene	5.000	0.50 U	5.873	117		68 - 138
Trichloroethene	5.000	0.50 U	5.306	106		55 - 150
1,2-Dichloropropane	5.000	0.50 U	6.032	121		67 - 137
Dibromomethane	5.000	0.50 U	5.020	100		50 - 150
Bromodichloromethane	5.000	0.50 U	5.792	116		73 - 142
cis-1,3-Dichloropropene	5.000	0.50 U	5.506	110		74 - 134





Liberty Analytical Corp.

SW 8260B

1R-44817MS

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: <u>2122704-MS1</u> % Solid: <u>NA</u> Matrix: <u>Water</u> Lab Source ID: <u>1212075-01</u> Source Sample: <u>1R-44817</u>

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
4-Methyl-2-pentanone	25.00	2.5 U	23.32	93		66 - 127
Toluene	5.000	0.1593 J	5.163	100		60 - 142
trans-1,3-Dichloropropene	5.000	0.50 U	5.152	103		66 - 130
1,1,2-Trichloroethane	5.000	0.50 U	5.212	104		68 - 130
Tetrachloroethene	5.000	0.50 U	4.976	100		65 - 137
2-Hexanone	25.00	2.5 U	22.36	89		53 - 140
Dibromochloromethane	5.000	0.50 U	4.828	97		68 - 137
1,2-Dibromoethane	5.000	0.50 U	4.511	90		73 - 128
Chlorobenzene	5.000	0.50 U	5.256	105		68 - 129
1,1,1,2-Tetrachloroethane	5.000	0.50 U	5.162	103		50 - 150
Ethylbenzene	5.000	0.50 U	5.433	109		67 - 127
m,p-Xylene	10.00	1.0 U	10.43	104		60 - 140
o-Xylene	5.000	0.50 U	5.258	105		60 - 140
Styrene	5.000	0.50 U	5.292	106		66 - 139
Bromoform	5.000	0.50 U	4.502	90		62 - 139
1,1,2,2-Tetrachloroethane	5.000	0.50 U	5.123	102		63 - 122
1,2,3-Trichloropropane	5.000	0.50 U	5.224	104		50 - 150
trans-1,4-Dichloro-2-butene	20.00	2.0 U	20.13	101		50 - 150
1,4-Dichlorobenzene	5.000	0.50 U	5.187	104		69 - 125
1,2-Dichlorobenzene	5.000	0.50 U	5.044	101		71 - 127
1,2-Dibromo-3-chloropropane	5.000	0.50 U	4.750	95		71 - 128
1,2-Dichloroethene (total)		0.50 U	11.53	0		50 - 150
Xylenes (total)	15.00	0.50 U	15.69	105		60 - 140



SW 8260B

1R-44817MSD

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: <u>LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY</u>

Lab ID: 2122704-MSD1

% Solid: NA

Matrix: Water

Lab Source ID: 1212075-01

Source Sample: <u>1R-44817</u>

	SPIKE	MSD	MSD			QC	LIMITS
ANALYTE	ADDED (ug/L)	CONCENTRATION (ug/L)	% REC. #	% RPD	Q	RPD	REC.
	1	6.364					50 - 150
Dichlorodifluoromethane	5.000		127	5		25	
Chloromethane	5.000	6.855	137	5		25	50 - 150
Vinyl chloride	5.000	6.639	133	6		25	61 - 150
Bromomethane	5.000	5.033	101	0.6		25	50 - 150
Chloroethane	5.000	6.141	123	0.3		25	54 - 150
Trichlorofluoromethane	5.000	5.852	117	6		25	56 - 150
1,1-Dichloroethene	5.000	5.739	115	5		14	74 - 143
Acetone	25.00	30.14	121	5		25	50 - 150
Iodomethane	5.000	4.020	80	18		25	50 - 150
Carbon disulfide	5.000	6.476	130	3		25	50 - 150
Methylene chloride	5.000	6.850	137	6		25	50 - 139
Acrylonitrile	100.0	53.00	53	2		25	50 - 150
trans-1,2-Dichloroethene	5.000	6.046	121	4		25	50 - 137
1,1-Dichloroethane	5.000	6.315	126	0.5		25	59 - 138
Vinyl acetate	10.00	10.69	107	5		25	50 - 150
cis-1,2-Dichloroethene	5.000	6.029	121	6		25	69 - 140
2-Butanone	25.00	25.54	102	0.8		25	65 - 134
Bromochloromethane	5.000	5.408	108	4		25	50 - 150
Chloroform	5.000	6.247	125	4		25	67 - 147
1,1,1-Trichloroethane	5.000	6.097	122	4		25	71 - 137
Carbon tetrachloride	5.000	5.565	111	2		25	68 - 145
1,2-Dichloroethane	5.000	6.084	122	0.05		25	61 - 150
Benzene	5.000	6.051	121	3		11	68 - 138
Trichloroethene	5.000	5.627	113	6		14	55 - 150
1,2-Dichloropropane	5.000	5.542	111	8		25	67 - 137
Dibromomethane	5.000	5.418	108	8		25	50 - 150
Bromodichloromethane	5.000	5.970	119	3		25	73 - 142
cis-1,3-Dichloropropene	5.000	5.434	109	. 1		25	74 - 134
4-Methyl-2-pentanone	25.00	20.73	83	12		25	66 - 127





Liberty Analytical Corp.

SW 8260B

1R-44817MSD

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: <u>2122704-MSD1</u> % Solid: <u>NA</u> Matrix: <u>Water</u> Lab Source ID: <u>1212075-01</u> Source Sample: <u>1R-44817</u>

	SPIKE	MSD	MSD			QC	LIMITS
ANALYTE	ADDED (ug/L)	CONCENTRATION (ug/L)	% REC. #	% RPD	Q	RPD	REC.
Toluene	5.000	5.025	97	3		13	60 - 142
trans-1,3-Dichloropropene	5.000	4.963	99	4		25	66 - 130
1,1,2-Trichloroethane	5.000	4.934	99	5		25	68 - 130
Tetrachloroethene	5.000	4.693	94	6		25	65 - 137
2-Hexanone	25.00	20.27	81	10		25	53 - 140
Dibromochloromethane	5.000	4.490	90	7		25	68 - 137
1,2-Dibromoethane	5.000	4.492	90	0.4		25	73 - 128
Chlorobenzene	5.000	5.045	101	4		13	68 - 129
1,1,1,2-Tetrachloroethane	5.000	4.929	99	5		25	50 - 150
Ethylbenzene	5.000	5.220	104	4		25	67 - 127
m,p-Xylene	10.00	10.30	103	1		25	60 - 140
o-Xylene	5.000	5.095	102	3		25	60 - 140
Styrene	5.000	5.050	101	5		25	66 - 139
Bromoform	5.000	3.948	79	13		25	62 - 139
1,1,2,2-Tetrachloroethane	5.000	4.739	95	8		25	63 - 122
1,2,3-Trichloropropane	5.000	4.954	99	5		25	50 - 150
trans-1,4-Dichloro-2-butene	20.00	18.22	91	10		25	50 - 150
1,4-Dichlorobenzene	5.000	5.140	103	0.9		25	69 - 125
1,2-Dichlorobenzene	5.000	4.857	97	4		25	71 - 127
1,2-Dibromo-3-chloropropane	5.000	4.502	90	5		25	71 - 128
1,2-Dichloroethene (total)		12.07	0	5		25	50 - 150
Xylenes (total)	15.00	15.39	103	2		25	60 - 140



PREPARATION BATCH SUMMARY

SW 8260B

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Batch: 2122704 Matrix: Water Preparation: SW 5030A/5030B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
1R-44817	1212075-01	12/27/12 18:30	25.0	25.0
1R-44818	1212075-02	12/27/12 18:30	25.0	25.0
TB-I	1212075-03	12/27/12 18:30	25.0	25.0
1R-45180	1212075-04	12/27/12 18:30	25.0	25.0
IR-44819	1212075-05	12/27/12 18:30	25.0	25.0
TB-2	1212075-06	12/27/12 18:30	25.0	25.0
VBLKNJ	2122704-BLK1	12/27/12 18:30	25.0	25.0
VLCSNJ	2122704-BS1	12/27/12 18:30	25.0	25.0
VLCSDNJ	2122704-BSD1	12/27/12 18:30	25.0	25.0
1R-44817MS	2122704-MS1	12/27/12 18:30	25.0	25.0
1R-44817MSD	2122704-MSD1	12/27/12 18:30	25.0	25.0



1R-44817

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: <u>Water</u> Preparation: <u>SW 5030A/5030B</u> File ID: <u>1212075-0171.d</u> Sampled: <u>12/18/12 13:43</u>

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>1212075-01</u> Received: <u>12/21/12 10:37</u>

Dilution: <u>1</u> pH: <u>1</u> Prepared: <u>12/27/12 18:30</u>

% Moisture: <u>NA</u> Analyzed: <u>12/27/12 22:25</u>

Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane		0.030	0.50	U
74-87-3	Chloromethane		0.11	0.50	U
75-01-4	Vinyl chloride		0.070	0.50	U
74-83-9	Bromomethane		0.11	0.50	U
75-00-3	Chloroethane		0.20	0.50	U
75-69-4	Trichlorofluoromethane		0.060	0.50	U
75-35-4	1,1-Dichloroethene		0.040	0.50	U
67-64-1	Acetone		0.44	2.5	U
74-88-4	Iodomethane		0.030	0.50	U
75-15-0	Carbon disulfide		0.020	0.50	U
75-09-2	Methylene chloride		0.020	0.50	U
107-13-1	Acrylonitrile		0.36	5.0	U
156-60-5	trans-1,2-Dichloroethene		0.050	0.50	U
75-34-3	1,1-Dichloroethane		0.020	0.50	U
108-05-4	Vinyl acetate		0.060	1.0	U
156-59-2	cis-1,2-Dichloroethene		0.030	0.50	U
78-93-3	2-Butanone		0.28	2.5	U
74-97-5	Bromochloromethane		0.040	0.50	U
67-66-3	Chloroform		0.030	0.50	U
71-55-6	1,1,1-Trichloroethane		0.020	0.50	U
56-23-5	Carbon tetrachloride		0.030	0.50	U
107-06-2	1,2-Dichloroethane		0.030	0.50	U
71-43-2	Benzene		0.030	0.50	U
79-01-6	Trichloroethene		0.030	0.50	U
78-87-5	1,2-Dichloropropane		0.12	0.50	U
74-95-3	Dibromomethane		0.030	0.50	U
75-27-4	Bromodichloromethane		0.030	0.50	U
10061-01-5	cis-1,3-Dichloropropene		0.040	0.50	U
108-10-1	4-Methyl-2-pentanone		0.42	2.5	U
108-88-3	Toluene		0.030	0.50	U
10061-02-6	trans-1,3-Dichloropropene		0.050	0.50	U
79-00-5	1,1,2-Trichloroethane		0.040	0.50	U





ANALYSIS DATA SHEET

SW 8260B

1R-44817

Project: LIBBY ASBESTOS TO-14/6402,DK1.002.SAMPL-14 DAY Client: CDM FEDERAL PROGRAMS CORP. SDG <u>1212075</u>

Preparation: SW 5030A/5030B File ID: <u>1212075-0171.d</u> Sampled: 12/18/12 13:43 Matrix: Water

Initial/Final: 25mL / 25mL Lab ID: 1212075-01 Received: 12/21/12 10:37

Prepared: 12/27/12 18:30 Dilution: 1 pH: 1

Analyzed: 12/27/12 22:25 % Moisture: NA

Batch: <u>212270</u>	<u>04</u> Sequence: <u>2L2</u>	<u>27004</u>	Calibration:	212280	<u>07</u>	Instrument: 597	2hp71
CAS NO.	COMPOUND	CO	NC. (ug/L)		MDL	RL	Q
127-18-4	Tetrachloroethene				0.060	0.50	U
591-78-6	2-Hexanone				0.51	2.5	U
124-48-1	Dibromochloromethane				0.040	0.50	U
106-93-4	1,2-Dibromoethane	·			0.040	0.50	U
108-90-7.	Chlorobenzene				0.020	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane				0.020	0.50	U
100-41-4	Ethylbenzene				0.040	0.50	U
179601-23-1	m,p-Xylene				0.080	1.0	U
95-47-6	o-Xylene				0.030	0.50	U
100-42-5	Styrene			0.020		0.50	$oldsymbol{U}$.
75-25-2	Bromoform			0.030		0.50	U
79-34-5	1,1,2,2-Tetrachloroethane			0.050		0.50	U
96-18-4	1,2,3-Trichloropropane			0.090		0.50	U
110-57-6	trans-1,4-Dichloro-2-butene			0.33		2.0	U
106-46-7	1,4-Dichlorobenzene			0.030		0.50	U
95-50-1	1,2-Dichlorobenzene			0.030		0.50	U
96-12-8	1,2-Dibromo-3-chloropropane		•		0.25	0.50	U
540-59-0	1,2-Dichloroethene (total)				0.030	0.50	U
1330-20-7	Xylenes (total)				0.030	0.50	U
SURROGAT	TE RECOVERY RESULTS	ADDED (ug/I	CONC (ug	g/L)	% REC	QC LIMITS	Q
Dibromofluoro	methane	5.000	6.009		120	65 - 150	
1,2-Dichloroethane-d4		5.000	6.241		125	59 - 150	
Toluene-d8		5.000	5.209		104	61 - 145	
Bromofluorobe	nzene	5.000	5.247		105	63 - 143	



1R-44818

5972hp71

Instrument:

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project:

Matrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0271.d Sampled: 12/19/12 12:59

Initial/Final: 25mL / 25mL Lab ID: 1212075-02 Received: 12/21/12 10:37

Dilution: 1 pH: 1 Prepared: 12/27/12 18:30

% Moisture: NA Analyzed: 12/27/12 23:54

Calibration:

2122807

CAS NO. COMPOUND CONC. (ug/L) MDL RLQ

		. , ,			
75-71-8	Dichlorodifluoromethane		0.030	0.50	U
74-87-3	Chloromethane		0.11	0.50	U
75-01-4	Vinyl chloride		0.070	0.50	U
74-83-9	Bromomethane		0.11	0.50	U
75-00-3	Chloroethane		0.20	0.50	U
75-69-4	Trichlorofluoromethane		0.060	0.50	U
75-35-4	1,1-Dichloroethene		0.040	0.50	U
67-64-1	Acetone	44	0.44	2.5	
74-88-4	Iodomethane		0.030	0.50	U
75-15-0	Carbon disulfide		0.020	0.50	U
75-09-2	Methylene chloride		0.020	0.50	U
107-13-1	Acrylonitrile		0.36	5.0	U
156-60-5	trans-1,2-Dichloroethene		0.050	0.50	U
75-34-3	1,1-Dichloroethane		0.020	0.50	U
108-05-4	Vinyl acetate		0.060	1.0	U
156-59-2	cis-1,2-Dichloroethene		0.030	0.50	U
78-93-3	2-Butanone		0.28	2.5	U
74-97-5	Bromochloromethane		0.040	0.50	U
67-66-3	Chloroform		0.030	0.50	U
71-55-6	1,1,1-Trichloroethane		0.020	0.50	U
56-23-5	Carbon tetrachloride		0.030	0.50	U
107-06-2	1,2-Dichloroethane		0.030	0.50	U
71-43-2	Benzene		0.030	0.50	U
79-01-6	Trichloroethene		0.030	0.50	U
78-87-5	1,2-Dichloropropane		0.12	0.50	U
74-95-3	Dibromomethane		0.030	0.50	U
75-27-4	Bromodichloromethane		0.030	0.50	U
10061-01-5	cis-1,3-Dichloropropene		0.040	0.50	U
108-10-1	4-Methyl-2-pentanone		0.42	2.5	U
108-88-3	Toluene		0.030	0.50	U
10061-02-6	trans-1,3-Dichloropropene		0.050	0.50	U
79-00-5	1,1,2-Trichloroethane		0.040	0.50	U



Batch: 2122704



Sequence:

2L27004

1R-44818

Client: GDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0271.d Sampled: 12/19/12 12:59

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>1212075-02</u> Received: <u>12/21/12 10:37</u>

Dilution: 1 pH: 1 Prepared: 12/27/12 18:30

% Moisture: NA Analyzed: 12/27/12 23:54

Batch: 2122704 2L27004 Calibration: Sequence: 2122807 Instrument: 5972hp71 CAS NO. COMPOUND RLCONC. (ug/L) MDL Q 127-18-4 Tetrachloroethene 0.060 0.50 UU 591-78-6 2.5 2-Hexanone 0.51 124-48-1 U Dibromochloromethane 0.040 0.50 106-93-4 0.040 0.50 U1,2-Dibromoethane 108-90-7 Chlorobenzene 0.020 0.50 UU630-20-6 1,1,1,2-Tetrachloroethane 0.020 0.50 100-41-4 0.040 0.50 UEthylbenzene 179601 23 1 0.080 1.0 Um,p-Xylene 95-47-6 o-Xylene 0.030 0.50 U100-42-5 Styrene 0.020 0.50 U75-25-2 U0.030 0.50 Bromoform 79-34-5 1,1,2,2-Tetrachloroethane 0.050 0.50 U 96-18-4 U1,2,3-Trichloropropane 0.090 0.50 110-57-6 trans-1,4-Dichloro-2-butene 0.33 2.0 U 106-46-7 U1,4-Dichlorobenzene 0.030 0.50 95-50-1 0.030 0.50 U1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane 96-12-8 0.25 0.50 U540-59-0 1,2-Dichloroethene (total) 0.030 0.50 U 1330-20-7 UXylenes (total) 0.030 0.50 Q SURROGATE RECOVERY RESULTS % REC QC LIMITS ADDED (ug/L) CONC (ug/L) Dibromofluoromethane 5.000 6.073 121 65 - 150 1,2-Dichloroethane-d4 5.000 6.169 123 59 - 150 Toluene-d8 5.000 5.154 103 61 - 145 Bromofluorobenzene 5.000 98 4.891 63 - 143



1R-44819

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402,DK1.002.SAMPL-14 DAY

Matrix: <u>Water</u> Preparation: <u>SW 5030A/5030B</u> File ID: <u>1212075-0571.d</u> Sampled: <u>12/20/12 11:35</u>

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>1212075-05</u> Received: <u>12/22/12 11:24</u>

Dilution: <u>1</u> pH: <u>1</u> Prepared: <u>12/27/12 18:30</u>

% Moisture: NA Analyzed: 12/28/12 01:23

Batch: 212270-	4 Sequence: <u>2L27004</u>	Calibration:	2122807	Instrument: 5972hp71		
CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q	
75-71-8	Dichlorodifluoromethane		0.030	0.50	U	
74-87-3	Chloromethane	0.91	0.11	0.50		
75-01-4	Vinyl chloride		0.070	0.50	U	
74-83-9	Bromomethane		0.11	0.50	U	
75-00-3	Chloroethane		0.20	0.50	U	
75-69-4	Trichlorofluoromethane		0.060	0.50	U	
75-35-4	1,1-Dichloroethene		0.040	0.50	U	
67-64-1	Acetone	7.6	0.44	2.5		
74-88-4	Iodomethane		0.030	0.50	U	
75-15-0	Carbon disulfide		0.020	0.50	U	
75-09-2	Methylene chloride		0.020	0.50	U	
107-13-1	Acrylonitrile		0.36	5.0	U	
156-60-5	trans-1,2-Dichloroethene		0.050	0.50	U	
75-34-3	1,1-Dichloroethane		0.020	0.50	U	
108-05-4	Vinyl acetate		0.060	1.0	U	
156-59-2	cis-1,2-Dichloroethene		0.030	0.50	\overline{U}	
78-93-3	2-Butanone		0.28	2.5	U	
74-97-5	Bromochloromethane		0.040	0.50	U	
67-66-3	Chloroform		0.030	0.50	U	
71-55-6	1,1,1-Trichloroethane		0.020	0.50	U	
56-23-5	Carbon tetrachloride		0.030	0.50	U	
107-06-2	1,2-Dichloroethane		0.030	0.50	U	
71-43-2	Benzene		0.030	0.50	U	
79-01-6	Trichloroethene		0.030	0.50	U	
78-87-5	1,2-Dichloropropane		0.12	0.50	U	
74-95-3	Dibromomethane		0.030	0.50	U	
75-27-4	Bromodichloromethane		0.030	0.50	U	
10061-01-5	cis-1,3-Dichloropropene		0.040	0.50	U	
108-10-1	4-Methyl-2-pentanone		0.42	2.5	U	
108-88-3	Toluene	0.61	0.030	0.50		
10061-02-6	trans-1,3-Dichloropropene		0.050	0.50	U	
79-00-5	1,1,2-Trichloroethane		0.040	0.50	U	





1R-44819

Client: CDM FEDERAL PROGRAMS CORP. SDG 121:2075- Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: <u>Water</u> Preparation: <u>SW 5030A/5030B</u> File ID: <u>1212075-0571.d</u> Sampled: <u>12/20/12 11:35</u>

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>1212075-05</u> Received: <u>12/22/12 11:24</u>

Dilution: <u>1</u> pH: <u>1</u> Prepared: <u>12/27/12 18:30</u>

% Moisture: <u>NA</u> Analyzed: <u>12/28/12 01:23</u>

Batch: 2122704	Sequence: 2	L27004	C	alibration:	212280	<u>07</u>		Instrument: 59	72hp71
CAS NO.	COMPOUND		CONC.	(ug/L)		MDL		RL	Q
127-18-4	Tetrachloroethene					0.060		0.50	U
591-78-6	2-Hexanone					0.51		2.5	U
124-48-1	Dibromochloromethane					0.040		0.50	U
106-93-4	1,2-Dibromoethane					0.040		0.50	U
108-90-7	Chlorobenzene					0.020		0.50	U
630-20-6	1,1,1,2-Tetrachloroethane					0.020		0.50	U
100-41-4	Ethylbenzene					0.040		0.50	U
179601-23-1	m,p-Xylene					0.080		1.0	U
95-47-6	o-Xylene					0.030		0.50	U
100-42-5	Styrene					0.020		0.50	U
75-25-2	Bromoform					0.030		0.50	U
79-34-5	1,1,2,2-Tetrachloroethane					0.050		0.50	U
96-18-4	1,2,3-Trichloropropane					0.090		0.50	U
110-57-6	trans-1,4-Dichloro-2-butene					0.33		2.0	U
106-46-7	1,4-Dichlorobenzene				}	0.030		0.50	U
95-50-1	1,2-Dichlorobenzene					0.030		0.50	U
96-12-8	1,2-Dibromo-3-chloropropane				0.25		0.50		U
540-59-0	1,2-Dichloroethene (total)					0.030		0.50	U
1330-20-7	Xylenes (total)					0.030		0.50	U
SURROGATE	E RECOVERY RESULTS	ADDED	(ug/L)	CONC (u	g/L)	% REC		QC LIMITS	Q
Dibromofluoromethane		5.00	0	6.344		127		65 - 150	
1,2-Dichloroethane-d4		5.00	0	6.467		129		59 - 150	
Toluene-d8		5.00	0	5.250		105		61 - 145	
Bromofluorobenz	zene	5.00	0	4.938		99		63 - 143	



1R-45180

Client: CDM FEDERAL PROGRAMS: CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: <u>Water</u> Preparation: <u>SW 5030A/5030B</u> File ID: <u>1212075-0471.d</u> Sampled: <u>12/20/12 11:20</u>

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>1212075-04</u> Received: <u>12/22/12 11:24</u>

Dilution: <u>1</u> pH: <u>1</u> Prepared: <u>12/27/12 18:30</u>

% Moisture: <u>NA</u> Analyzed: <u>12/28/12 00:54</u>

Batch: 212270	<u>4</u> Sequence: <u>2L27004</u>	Calibration:	2122807	Instrument: <u>5972hp71</u>		
CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q	
75-71-8	Dichlorodifluoromethane		0.030	0.50	U	
74-87-3	Chloromethane	0.83	0.11	0.50		
75-01-4	Vinyl chloride		0.070	0.50	U	
74-83-9	Bromomethane		0.11	0.50	U	
75-00-3	Chloroethane		0.20	0.50	U	
75-69-4	Trichlorofluoromethane		0.060	0.50	U	
75-35-4	1,1-Dichloroethene		0.040	0.50	U	
67-64-1	Acetone	6.9	0.44	2.5		
74-88-4	Iodomethane		0.030	0.50	U	
75-15-0	Carbon disulfide		0.020	0.50	U	
75-09-2	Methylene chloride		0.020	0.50	U	
107-13-1	Acrylonitrile		0.36	5.0	U	
156-60-5	trans-1,2-Dichloroethene		0.050	0.50	U	
75-34-3	1,I-Dichloroethane		0.020	0.50	U	
108-05-4	Vinyl acetate		0.060	1.0	U_{\perp}	
156-59-2	cis-1,2-Dichloroethene		0.030	0.50	U	
78-93-3	2-Butanone		0.28	2.5	U	
74-97-5	Bromochloromethane		0.040	0.50	U	
67-66-3	Chloroform		0.030	0.50	U	
71-55-6	1,1,1-Trichloroethane		0.020	0.50	U	
56-23-5	Carbon tetrachloride		0.030	0.50	U	
107-06-2	1,2-Dichloroethane		0.030	0.50	U	
71-43-2	Benzene		0.030	0.50	U	
79-01-6	Trichloroethene		0.030	0.50	U	
78-87-5	1,2-Dichloropropane		0.12	0.50	U	
74-95-3	Dibromomethane		0.030	0.50	U	
75-27-4	Bromodichloromethane		0.030	0.50	U	
10061-01-5	cis-1,3-Dichloropropene	:	0.040	0.50	U	
108-10-1	4-Methyl-2-pentanone		0.42	2.5	U	
108-88-3	Toluene	0.55	0.030	0.50		
10061-02-6	trans-1,3-Dichloropropene		0.050	0.50	U	
79-00-5	1,1,2-Trichloroethane		0.040	0.50	U	



ANALYSIS DATA SHEET

SW 8260B

1R-45180

SDG <u>1212075</u> Client: CDM FEDERAL PROGRAMS CORP. Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

SW 5030A/5030B Matrix: Water Preparation: File ID: 1212075-0471.d Sampled: 12/20/12 11:20

Initial/Final: 25mL / 25mL Lab ID: 1212075-04 Received: 12/22/12 11:24

Dilution: 1 pH: 1 Prepared: 12/27/12 18:30

12/28/12 00:54 Analyzed: % Moisture: NA

Batch: 2122704 Sequence: 2L27004 Calibration: 2122807 Instrument: 5972hp71

CAS NO.	COMPOUND		CONC.	(ug/L)		MDL	RL	Q
127-18-4	Tetrachloroethene				0.060		0.50	U
591-78-6	2-Hexanone				0.51		2.5	U
124-48-1	Dibromochloromethane					0.040	0.50	U
106-93-4	1,2-Dibromoethane				0.040		0.50	U
108-90-7	Chlorobenzene					0.020	0.50	U
630-20-6	1,1,1,2-Tetrachloroethane				0.020		0.50	U
100-41-4	Ethylbenzene					0.040	0.50	U
179601-23-1	m,p-Xylene					0.080	1.0	U
95-47-6	o-Xylene					0.030	0.50	U
100-42-5	Styrene				0.020		0.50	U
75-25-2	Bromoform				0.030		0.50	U
79-34-5	1,1,2,2-Tetrachloroethane				0.050		0.50	U
96-18-4	1,2,3-Trichloropropane				0.090		0.50	U
110-57-6	trans-1,4-Dichloro-2-butene				0.33		2.0	U
106-46-7	1,4-Dichlorobenzene					0.030	0.50	U
95-50-1	1,2-Dichlorobenzene					0.030	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane					0.25	0.50	U
540-59-0	1,2-Dichloroethene (total)					0.030	0.50	U
1330-20-7	Xylenes (total)					0.030	0.50	U_{\perp}
SURROGAT	E RECOVERY RESULTS	ADDED	(ug/L)	CONC (ug	/L)	% REC	QC LIMITS	Q
Dibromofluoromethane		5.00	0	5.972		119	65 - 150	
1,2-Dichloroethane-d4		5.00	0	6.537	131		59 - 150	
Toluene-d8		5.00	0	5.133		103	61 - 145	
Bromofluorobenzene		5.00	0	5.140		103	63 - 143	



ANALYSIS DATA SHEET

SW 8260B

TB-1

--Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Preparation: SW 5030A/5030B File ID: 1212075-0371.d Sampled: 12/18/12 00:00

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>1212075-03</u> Received: <u>12/21/12 10:37</u>

Dilution: 1 pH: 1 Prepared: 12/27/12 18:30

% Moisture: NA Analyzed: 12/28/12 00:24

Batch: 212270	4 Sequence: <u>2L27004</u>	Calibration:	2122807	Instrument: 597	<u>2hp71</u>
CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane		0.030	0.50	U
74-87-3	Chloromethane		0.11	0.50	U
75-01-4	Vinyl chloride		0.070	0.50	U
74-83-9	Bromomethane		0.11	0.50	U
75-00-3	Chloroethane		0.20	0.50	U
75-69-4	Trichlorofluoromethane		0.060	0.50	U
75-35-4	1,1-Dichloroethene		0.040	0.50	U
67-64-1	Acetone	3.0	0.44	2.5	
74-88-4	Iodomethane		0.030	0.50	U
75-15-0	Carbon disulfide		0.020	0.50	U
75-09-2	Methylene chloride		0.020	0.50	U
107-13-1	Acrylonitrile		0.36	5.0	U
156-60-5	trans-1,2-Dichloroethene		0.050	0.50	U
75-34-3	1,1-Dichloroethane		0.020	0.50	U
108-05-4	Vinyl acetate		0.060	1.0	U
156-59-2	cis-1,2-Dichloroethene		0.030	0.50	U
78-93-3	2-Butanone		0.28	2.5	U
74-97-5	Bromochloromethane		0.040	0.50	U
67-66-3	Chloroform		0.030	0.50	U
71-55-6	1,1,1-Trichloroethane		0.020	0.50	U
56-23-5	Carbon tetrachloride		0.030	0.50	U
107-06-2	1,2-Dichloroethane		0.030	0.50	U
71-43-2	Benzene		0.030	0.50	U
79-01-6	Trichloroethene		0.030	0.50	U
78-87-5	1,2-Dichloropropane		0.12	0.50	U
74-95-3	Dibromomethane		0.030	0.50	U
75-27-4	Bromodichloromethane		0.030	0.50	U
10061-01-5	cis-1,3-Dichloropropene		0.040	0.50	U
108-10-1	4-Methyl-2-pentanone		0.42	2.5	U
108-88-3	Toluene		0.030	0.50	U
10061-02-6	trans-1,3-Dichloropropene		0.050	0.50	U
79-00-5	1,1,2-Trichloroethane		0.040	0.50	U





TB-1

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: <u>Water</u> Preparation: <u>SW 5030A/5030B</u> File ID: <u>1212075-0371.d</u> Sampled: <u>12/18/12 00:00</u>

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>1212075-03</u> Received: <u>12/21/12 10:37</u>

Dilution: <u>1</u> pH: <u>1</u> Prepared: <u>12/27/12 18:30</u>

% Moisture: NA Analyzed: 12/28/12 00:24

Batch: 2122704	Sequence: <u>2L2</u>	7004	C	alibration:	212280	<u>)77</u>	Instrument: 597	<u>2hp71</u>
CAS NO.	COMPOUND		CONC.	(ug/L)		MDL	RL	Q
127-18-4	Tetrachloroethene					0.060	0.50	U
591-78-6	2-Hexanone					0.51	2.5	U
124-48-1	Dibromochloromethane				0.040		0.50	U
106-93-4	1,2-Dibromoethane				0.040		0.50	U
108-90-7	Chlorobenzene				0.020		0.50	U
630-20-6	1,1;1,2-Tetrachloroethane				0.020		0.50	U
100-41-4	Ethylbenzene					0.040	0.50	U
179601-23-1	m,p-Xylene					0.080	1.0	U_{-}
95-47-6	o-Xylene		-			0.030	0.50	U
100-42-5	Styrene					0.020	0.50	U
75-25-2	Bromoform					0.030	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane					0.050	0.50	U
96-18-4	1,2,3-Trichloropropane				0.090		0.50	U
110-57-6	trans-1,4-Dichloro-2-butene				0.33		2.0	U
106-46-7	1,4-Dichlorobenzene				0.030		0.50	U_{-}
95-50-1	1,2-Dichlorobenzene					0.030	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane					0.25	0.50	U
540-59-0	1,2-Dichloroethene (total)					0.030	0.50	U
1330-20-7	Xylenes (total)					0.030	0.50	U
SURROGAT	E RECOVERY RESULTS	ADDED	(ug/L)	CONC (ug	;/L)	% REC	QC LIMITS	Q
Dibromofluorom	nethane	5.000)	6.044		121	65 - 150	
1.2-Dichloroetha	ine-d4	5.000)	6.346		127	59 - 150	
Toluene-d8		5.000)	5.260		105	61 - 145	
Bromofluoroben	zene	5.000)	4.883		98	63 - 143	



TB-2

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002,SAMPL-14 DAY

Matrix: Water Preparation: <u>SW 5030A/5030B</u> File ID: <u>1212075-0671.d</u> Sampled: <u>12/18/12 00:00</u>

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>1212075-06</u> Received: <u>12/22/12 11:24</u>

Dilution: <u>1</u> pH: <u>1</u> Prepared: <u>12/27/12 18:30</u>

% Moisture: <u>NA</u> Analyzed: <u>12/28/12 01:53</u>

Batch: 2122704 2L27004 Calibration: 2122807 Sequence: Instrument: 5972hp71 CAS NO. COMPOUND RLCONC. (ug/L) MDL Q 75-71-8 Dichlorodifluoromethane 0.030 0.50 U U 74-87-3 0.50 0.11 Chloromethane 75-01-4 0.070 U Vinyl chloride 0.50 74-83-9 0.11 0.50 U Bromomethane 75-00-3 Chloroethane 0.20 0.50 U 75-69-4 Trichlorofluoromethane 0.060 0.50 U75-35-4 0.040 0.50 U1,1-Dichloroethene 0.44 2.5 U 67-64-1 Acetone U 74-88-4 Iodomethane 0.030 0.50 U 75-15-0 Carbon disulfide 0.020 0.50 75-09-2 U 0.020 0.50 Methylene chloride 107-13-1 5.0 U Acrylonitrile 0.36 U 156-60-5 trans-1,2-Dichloroethene 0.050 0.50 75-34-3 1,1-Dichloroethane 0.020 0.50 U U 108-05-4 Vinyl acetate 0.060 1.0 156-59-2 cis-1,2-Dichloroethene 0.030 0.50 U78-93-3 2-Butanone 0.28 2.5 U74-97-5 Bromochloromethane 0.040 0.50 U U 67-66-3 Chloroform 0.030 0.50 71-55-6 U 0.50 1,1,1-Trichloroethane 0.020 56-23-5 Carbon tetrachloride 0.030 0.50 U 107-06-2 U 1,2-Dichloroethane 0.030 0.50 71-43-2 Benzene 0.030 0.50 U 79-01-6 Trichloroethene 0.030 0.50 U78-87-5 0.12 0.50 U1,2-Dichloropropane 74-95-3 0.030 0.50 UDibromomethane U 75-27-4 Bromodichloromethane 0.030 0.50 10061-01-5 cis-1,3-Dichloropropene 0.040 0.50 U2.5 U 108-10-1 4-Methyl-2-pentanone 0.42 108-88-3 0.030 0.50 U Toluene U 10061-02-6 trans-1,3-Dichloropropene 0.050 0.50 79-00-5 1,1,2-Trichloroethane 0.040 0.50 U



TB-2

Client: CDM FEDERAL PROGRAMS CORP. SDG 1212075 Project: LIBBY ASBESTOS TO-14/6402:DK1.002.SAMPL-14 DAY

Matrix: Water Preparation: <u>SW 5030A/5030B</u> File ID: <u>1212075-0671.d</u> Sampled: <u>12/18/12 00:00</u>

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>1212075-06</u> Received: <u>12/22/12 11:24</u>

Dilution: <u>1</u> pH: <u>1</u> Prepared: <u>12/27/12 18:30</u>

% Moisture: NA Analyzed: 12/28/12 01:53

Batch: 212270	$\frac{4}{2}$ Sequence: $\frac{2L_2}{2}$	27004	C	alibration:	212280	<u>''</u>	Instrument: <u>597</u>	2np/1
CAS NO.	COMPOUND		CONC.	(ug/L)	1	MDL	RL	Q
127-18-4	Tetrachloroethene					0.060	0.50	U
591-78-6	2-Hexanone				0.51		2.5	U
124-48-1	Dibromochloromethane				0.040		0.50	U
106-93-4	1,2-Dibromoethane				0.040		0.50	U
108-90-7	Chlorobenzene				0.020		0.50	U
630-20-6	1,1,1,2-Tetrachloroethane				0.020		0.50	U
100-41-4	Ethylbenzene					0.040	0.50	U
179601-23-1	m,p-Xylene					0.080	1.0	U
95-47-6	o-Xylene					0.030	0.50	U
100-42-5	Styrene					0.020	0.50	U
75-25-2	Bromoform					0.030	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane					0.050	0.50	U
96-18-4	1,2,3-Trichloropropane				0.090		0.50	U
110-57-6	trans-1,4-Dichloro-2-butene				0.33		2.0	U
106-46-7	1,4-Dichlorobenzene				0.030		0.50	U
95-50-1	1,2-Dichlorobenzene				0.030		0.50	U
96-12-8	1,2-Dibromo-3-chloropropane					0.25	0.50	U
540-59-0	1,2-Dichloroethene (total)	·				0.030	0.50	U
1330-20-7	Xylenes (total)					0.030	0.50	U
SURROGAT	E RECOVERY RESULTS	ADDED	(ug/L)	CONC (ug	g/L)	% REC	QC LIMITS	Q
Dibromofluoror	nethane	5.000)	6.541		131	65 - 150	
1,2-Dichloroeth	ane-d4	5.000)	6.948		139	59 - 150	
Toluene-d8		5.000)	5.277		106	61 - 145	
Bromofluorober	nzene	5.000)	5.161		103	63 - 143	



SW 8260B

VBLKNJ

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Extraction: SW 5030A/5030B File ID: 2122704-BLK1R71.d QC Type: Blank

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>2122704-BLK1</u> Column ID: <u>SPB-624</u>

Dilution: <u>1</u> pH: Prepared: <u>12/27/12 18:30</u>

% Moisture: NA Analyzed: 12/27/12 18:30

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane		0.030	0.50	U
74-87-3	Chloromethane		0.11	0.50	U
75-01-4	Vinyl chloride		0.070	0.50	U
74-83-9	Bromomethane		0.11	0.50	U
75-00-3	Chloroethane		0.20	0.50	U
75-69-4	Trichlorofluoromethane		0.060	0.50	U
75-35-4	1,1-Dichloroethene		0.040	0.50	U
67-64-1	Acetone		0.44	2.5	U
74-88-4	Iodomethane		0.030	0.50	U
75-15-0	Carbon disulfide		0.020	0.50	U
75-09 - 2	Methylene chloride		0.020	0.50	U
107-13-1	Acrylonitrile		0.36	5.0	U
156-60-5	trans-1,2-Dichloroethene		0.050	0.50	U
75-34-3	1,1-Dichloroethane		0.020	0.50	U
108-05-4	Vinyl acetate		0.060	1.0	U
156-59-2	cis-1,2-Dichloroethene		0.030	0.50	U
78-93-3	2-Butanone		0.28	2.5	U
74-97-5	Bromochloromethane		0.040	0.50	U
67-66-3	Chloroform		0.030	0.50	U
71-55-6	1,1,1-Trichloroethane		0.020	0.50	U
56-23-5	Carbon tetrachloride		0.030	0.50	U
107-06-2	1,2-Dichloroethane		0.030	0.50	U
71-43-2	Benzene		0.030	0.50	U
79-01-6	Trichloroethene		0.030	0.50	U
78-87-5	1,2-Dichloropropane		0.12	0.50	U
74-95-3	Dibromomethane		0.030	0.50	U
75-27-4	Bromodichloromethane		0.030	0.50	U
10061-01-5	cis-1,3-Dichloropropene		0.040	0.50	U
108-10-1	4-Methyl-2-pentanone		0.42	2.5	U
108-88-3	Toluene		0.030	0.50	U
10061-02-6	trans-1,3-Dichloropropene		0.050	0.50	U





VBLKNJ

12/27/12 18:30

Prepared:

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402,DK1.002.SAMPL-14 DAY

Matrix: Water Extraction: SW 5030A/5030B File ID: 2122704-BLK1R71.d QC Type: Blank

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>2122704-BLK1</u> Column ID: <u>SPB-624</u>

% Moisture: NA Analyzed: 12/27/12 18:30

Batch: <u>2122704</u> Sequence: <u>2L27004</u> Calibration: <u>2122807</u> Instrument: <u>5972hp71</u>

CAS NO.	COMPOUND		CON	IC.(ug/L)		MDL		RL	Q	
79-00-5	1,1,2-Trichloroethane		Ī			0.040		0.50	U	
127-18-4	Tetrachloroethene					0.060		0.50	U	
591-78-6	2-Hexanone	•			0.51		2.5		U	
124-48-1	Dibromochloromethane					0.040		0.50	U	
106-93-4	1,2-Dibromoethane					0.040		0.50	U	
108-90-7	Chlorobenzene					0.020		0.50	U	
630-20-6	1,1,1,2-Tetrachloroethane					0.020		0.50	U	
100-41-4	Ethylbenzene	<u></u>				0.040		0.50	U	
179601-23-1	m,p-Xylene					0.080		1.0	U	
95-47-6	o-Xylene					0.030		0.50	U	
100-42-5	Styrene					0.020		0.50	U	
75-25-2	Bromoform					0.030		0.50	U	
79-34-5	1,1,2,2-Tetrachloroethane					0.050		0.50	U	
96-18-4	1,2,3-Trichloropropane					0.090		0.50	U	
110-57-6	trans-1,4-Dichloro-2-butene					0.33		2.0	U	
106-46-7	1,4-Dichlorobenzene					0.030		0.50	U	
95-50-1	1,2-Dichlorobenzene				0.030			0.50	U	
96-12-8	1,2-Dibromo-3-chloropropane					0.25		0.50	U	
540-59-0	1,2-Dichloroethene (total)					0.030		0.50	U	
1330-20-7	Xylenes (total)					0.030		0.50	U	
SURROGAT	TE RECOVERY RESULTS	ADDED	(ug/L)	CONC (u	ıg/L)	% REC		QC LIMITS	Q	
Dibromofluoro	methane	5.0	00	5.82	.7	117		65 - 150		
1,2-Dichloroeth	nane-d4	ne-d4 5.00		5.63	9	113		59 - 150		
Toluene-d8		5.0	00	5.40	1	108		61 - 145		
Bromofluorobe	nzene	5.0	00	5.08	2	102		63 - 143		



Dilution: 1

pH:

VLCSNJ

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Extraction: SW 5030A/5030B File ID: 2122704-BS171.d QC Type: LCS

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>2122704-BS1</u> Column ID: <u>SPB-624</u>

Dilution: <u>1</u> pH: Prepared: <u>12/27/12 18:30</u>

% Moisture: <u>NA</u> Analyzed: <u>12/27/12 18:59</u>

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane	5.693	0.030	0.50	
74-87-3	Chloromethane	6.044	0.11	0.50	
75-01-4	Vinyl chloride	5.707	0.070	0.50	
74-83-9	Bromomethane	4.075	0.11	0.50	
75-00-3	Chloroethane	5.865	0.20	0.50	
75-69-4	Trichlorofluoromethane	5.364	0.060	0.50	
75-35-4	1,1-Dichloroethene	5.658	0.040	0.50	
67-64-1	Acetone	30.43	0.44	2.5	
74-88-4	Iodomethane	3.527	0.030	0.50	
75-15-0	Carbon disulfide	6.152	0.020	0.50	
75-09-2	Methylene chloride	5.919	0.020	0.50	
107-13-1	Acrylonitrile	53.11	0.36	5.0	
156-60-5	trans-1,2-Dichloroethene	6.012	0.050	0.50	
75-34-3	1,1-Dichloroethane	6.100	0.020	0.50	
108-05-4	Vinyl acetate	10.94	0.060	1.0	
156-59-2	cis-1,2-Dichloroethene	5.404	0.030	0.50	
78-93-3	2-Butanone	25.04	0.28	2.5	
74-97-5	Bromochloromethane	5.262	0.040	0.50	
67-66-3	Chloroform	5.873	0.030	0.50	
71-55-6	1,1,1-Trichloroethane	5.823	0.020	0.50	
56-23-5	Carbon tetrachloride	5.476	0.030	0.50	
107-06-2	1,2-Dichloroethane	5.774	0.030	0.50	
71-43-2	Benzene	5.645	0.030	0.50	
79-01-6	Trichloroethene	5.399	0.030	0.50	
78-87-5	1,2-Dichloropropane	5.596	0.12	0.50	
74-95-3	Dibromomethane	4.857	0.030	0.50	
75-27-4	Bromodichloromethane	5.564	0.030	0.50	
10061-01-5	cis-1,3-Dichloropropene	5.365	0.040	0.50	
108-10-1	4-Methyl-2-pentanone	22.40	0.42	2.5	
108-88-3	Toluene	5.007	0.030	0.50	
10061-02-6	trans-1,3-Dichloropropene	4.820	0.050	0.50	





VLCSNJ

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Extraction: SW 5030A/5030B File ID: 2122704-BS171.d QC Type: LCS

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>2122704-BS1</u> Column ID: <u>SPB-624</u>

Dilution: <u>1</u> pH: Prepared: <u>12/27/12 18:30</u>

 % Moisture:
 NA
 Analyzed:
 12/27/12 18:59

 Batch:
 2122704
 Sequence:
 2L27004
 Calibration:
 2122807
 Instrument:
 5972hp71

CAS NO.	COMPOUND		CON	VC.(ug/L)		MDL	RL	Q
79-00-5	1,1,2-Trichloroethane	·		4.922		0.040	0.50	
127-18-4	Tetrachloroethene		1	4.675		0.060	0.50	
591-78-6	2-Hexanone	- ·	1	21.94		0.51	2.5	
124-48-1	Dibromochloromethane		4	4.537		0.040	0.50	
106-93-4	1,2-Dibromoethane	1,2-Dibromoethane		4.728		0.040	0.50	
108-90-7	Chlorobenzene			5.025		0.020	0.50	
630-20-6	1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane		4.861		0.020	0.50	
100-41-4	Ethylbenzene	Ethylbenzene		5.256		0.040	0.50	
179601-23-1	m,p-Xylene			10.39		0.080	1.0	
95-47-6	o-Xylene			5.035		0.030	0.50	
100-42-5	Styrene		4	.991 0.020		0.50		
75-25-2	Bromoform	Bromoform		4.381		0.030	0.50	
79 - 34-5	1,1,2,2-Tetrachloroethane		4	4.813		0.050	0.50	
96-18-4	1,2,3-Trichloropropane			5.250 0.090		0.090	0.50	
110-57-6	trans-1,4-Dichloro-2-butene		19.64		0.33		2.0	
106-46-7	1,4-Dichlorobenzene		5.065		0.030		0.50	
95-50-1	1,2-Dichlorobenzene		4	4.886		0.030 0.50		
96-12-8	1,2-Dibromo-3-chloropropane		4	4.881	0.25		0.50	
540-59-0	1,2-Dichloroethene (total)			11.42		0.030	0.50	
1330-20-7	Xylenes (total)			15.43		0.030	0.50	
SURROGAT	TE RECOVERY RESULTS	E RECOVERY RESULTS ADDED		CONC (u	g/L)	% REC	QC LIMITS	Q
Dibromofluoro	methane	nethane 5.00		5.58	8	112	65 - 150	
1,2-Dichloroetl	hane-d4	5.00	00	5.87	1	117	59 - 150	
Toluene-d8		5.00	00	4.98	8	100	61 - 145	
Bromofluorobe	enzene	5.00	00	4.93	5	99 .	63 - 143	



SW 8260B

VLCSDNJ

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Extraction: SW 5030A/5030B File ID: 2122704-BSD1R71.d QC Type: LCS Dup

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>2122704-BSD1</u> Column ID: <u>SPB-624</u>

Dilution: <u>1</u> pH: Prepared: <u>12/27/12 18:30</u>

% Moisture: <u>NA</u> Analyzed: <u>12/27/12 20:39</u>

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane	6.064	0.030	0.50	
74-87-3	Chloromethane	6.194	0.11	0.50	
75-01-4	Vinyl chloride	6.441	0.070	0.50	
74-83-9	Bromomethane	4.867	0.11	0.50	
75-00-3	Chloroethane	5.868	0.20	0.50	
75-69-4	Trichlorofluoromethane	5.636	0.060	0.50	
75-35-4	1,1-Dichloroethene	5.730	0.040	0.50	
67-64-1	Acetone	29.33	0.44	2.5	
74-88-4	Iodomethane	3.943	0.030	0.50	
75-15-0	Carbon disulfide	6.032	0.020	0.50	
75-09-2	Methylene chloride	6.164	0.020	0.50	
107-13-1	Acrylonitrile	56.42	0.36	5.0	
156-60-5	trans-1,2-Dichloroethene	5.918	0.050	0.50	
75-34-3	1,1-Dichloroethane	6.217	0.020	0.50	
108-05-4	Vinyl acetate	11.36	0.060	1.0	
156-59-2	cis-1,2-Dichloroethene	5.641	0.030	0.50	
78-93-3	2-Butanone	26.68	0.28	2.5	
74-97-5	Bromochloromethane	5.705	0.040	0.50	
67-66-3	Chloroform	6.158	0.030	0.50	
71-55-6	1,1,1-Trichloroethane	5.977	0.020	0.50	
56-23-5	Carbon tetrachloride	5.538	0.030	0.50	
107-06-2	1,2-Dichloroethane	6.111	0.030	0.50	
71-43-2	Benzene	5.835	0.030	0.50	
79-01-6	Trichloroethene	5.419	0.030	0.50	
78-87-5	1,2-Dichloropropane	5.637	0.12	0.50	
74-95-3	Dibromomethane	5.650	0.030	0.50	
75-27-4	Bromodichloromethane	5.857	0.030	0.50	
10061-01-5	cis-1,3-Dichloropropene	5.804	0.040	0.50	
108-10-1	4-Methyl-2-pentanone	23.74	0.42	2.5	
108-88-3	Toluene	5.075	0.030	0.50	
10061-02-6	trans-1,3-Dichloropropene	5.388	0.050	0.50	



SW 8260B

VLCSDNJ

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Extraction: SW 5030A/5030B File ID: 2122704-BSD1R71.d QC Type: LCS Dup

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>2122704-BSD1</u> Column ID: <u>SPB-624</u>

Dilution: <u>1</u> pH: Prepared: <u>12/27/12 18:30</u>

% Moisture: <u>NA</u> Analyzed: <u>12/27/12 20:39</u>

CAS NO.	COMPOUND		COI	NC.(ug/L)		MDL		RL	Q
79-00-5	1,1,2-Trichloroethane			5.178		0.040		0.50	
127-18-4	Tetrachloroethene	-		4.991		0.060		0.50	
591-78-6	2-Hexanone			24.07		0.51		2.5	
124-48-1	Dibromochloromethane	""		4.774		0.040		0.50	
106-93-4	1,2-Dibromoethane			4.778		0.040		0.50	
108-90-7	Chlorobenzene			5.248		0.020		0.50	
630-20-6	1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane		5.097		0.020		0.50	
100-41-4	Ethylbenzene			5.445		0.040		0.50	
179601-23-1	n,p-Xylene			10.67		0.080		1.0	
95-47-6	o-Xylene		5.403		0.030			0.50	
100-42-5	Styrene		5.244		0.020			0.50	
75-25-2	Bromoform	Bromoform		4.338		0.030		0.50	
79-34-5	1,1,2,2-Tetrachloroethane			4.983		0.050		0.50	
96-18-4	1,2,3-Trichloropropane		5.825			0.090		0.50	
110-57-6	trans-1,4-Dichloro-2-butene		20.70		0.33			2.0	-
106-46-7	1,4-Dichlorobenzene		5.056		0.030			0.50	
95-50-1	1,2-Dichlorobenzene		4.844		0.030			0.50	
96-12-8	1,2-Dibromo-3-chloropropane			4.703	0.25			0.50	
540-59-0	1,2-Dichloroethene (total)			11.56		0.030		0.50	
1330-20-7	Xylenes (total)			16.07		0.030		0.50	
SURROGAT	TE RECOVERY RESULTS	E RECOVERY RESULTS ADDED		CONC (u	ıg/L)	% REC		QC LIMITS	Q
Dibromofluoro	methane	ethane 5.00		5.68	8	114		65 - 150	
1,2-Dichloroeth	nane-d4	ane-d4 5.00		5.93	5	119		59 - 150	
Toluene-d8		5.00	00	4.89	8	98		61 - 145	
Bromofluorobe	nzene	5.00	00	4.62	2	92		63 - 143	



SW 8260B

1R-44817MS

12/27/12 18:30

Prepared:

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Extraction: SW 5030A/5030B File ID: 2122704-MS171.d QC Type: Matrix Spike

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>2122704-MS1</u> Column ID: <u>SPB-624</u>

% Moisture: <u>NA</u> Analyzed: <u>12/27/12 22:55</u>

Batch: <u>2122704</u> Sequence: <u>2L27004</u> Calibration: <u>2122807</u> Instrument: <u>5972hp71</u>

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane	6.044	0.030	0.50	
74-87-3	Chloromethane	6.547	0.11	0.50	
75-01-4	Vinyl chloride	6.255	0.070	0.50	
74-83-9	Bromomethane	5,001	0.11	0.50	
75-00-3	Chloroethane	6.161	0.20	0.50	
75-69-4	Trichlorofluoromethane	5.517	0.060	0.50	
75-35-4	1,1-Dichloroethene	5.445	0.040	0.50	
67-64-1	Acetone	28.76	0.44	2.5	
74-88-4	Iodomethane	3.366	0.030	0.50	
75-15-0	Carbon disulfide	6.258	0.020	0.50	
75-09-2	Methylene chloride	6.426	0.020	0.50	
107-13-1	Acrylonitrile	53.90	0.36	5.0	
156-60-5	trans-1,2-Dichloroethene	5.837	0.050	0.50	
75-34-3	1,1-Dichloroethane	6.345	0.020	0.50	
108-05-4	Vinyl acetate	11.21	0.060	1.0	
156-59-2	cis-1,2-Dichloroethene	5.690	0.030	0.50	
78-93-3	2-Butanone	25.75	0.28	2.5	
74-97-5	Bromochloromethane	5.645	0.040	0.50	
67-66-3	Chloroform	6.004	0.030	0.50	
71-55-6	1,1,1-Trichloroethane	5.834	0.020	0.50	
56-23-5	Carbon tetrachloride	5.454	0.030	0.50	
107-06-2	1,2-Dichloroethane	6.088	0.030	0.50	
71-43-2	Benzene	5.873	0.030	0.50	
79-01 - 6	Trichloroethene	5.306	0.030	0.50	
78-87-5	1,2-Dichloropropane	6.032	0.12	0.50	
74 - 95-3	Dibromomethane	5.020	0.030	0.50	
75-27-4	Bromodichloromethane	5.792	0.030	0.50	
10061-01-5	cis-1,3-Dichloropropene	5.506	0.040	0.50	
108-10-1	4-Methyl-2-pentanone	23.32	0.42	2.5	
108-88-3	Toluene	5.163	0.030	0.50	
10061-02-6	trans-1,3-Dichloropropene	5.152	0.050	0.50	



Dilution: 1

pH: 1



SW 8260B

1R-44817MS

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Extraction: SW 5030A/5030B File ID: 2122704-MS171.d QC Type: Matrix Spike

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>2122704-MS1</u> Column ID: <u>SPB-624</u>

Dilution: <u>1</u> pH: <u>1</u> Prepared: <u>12/27/12 18:30</u>

% Moisture: <u>NA</u> Analyzed: <u>12/27/12 22:55</u>

CAS NO.	COMPOUND		CON	VC.(ug/L)]	MDL	RL	Q
79-00-5	1,1,2-Trichloroethane			5.212		0.040	0.50	
127-18-4	Tetrachloroethene		,	4.976		0.060	0.50	
591-78-6	2-Hexanone		:	22.36	0.51		2.5	
124-48-1	Dibromochloromethane		4	4.828		0.040	0.50	
106-93-4	1,2-Dibromoethane		4	4.511		0.040	0.50	
108-90-7	Chlorobenzene	Chlorobenzene		5.256		0.020	0.50	
630-20-6	1,1,1,2-Tetrachloroethane			5.162		0.020	0.50	
100-41-4	Ethylbenzene	Ethylbenzene		5.433		0.040	0.50	
179601-23-1	m,p-Xylene			10.43		0.080	1.0	
95-47-6	o-Xylene	o-Xylene		5.258		0.030	0.50	
100-42-5	Styrene			5.292	0.020		0.50	
75-25-2	Bromoform	Bromoform		4.502		0.030	0.50	
79-34-5	1,1,2,2-Tetrachloroethane		:	5.123		0.050	0.50	
96-18-4	1,2,3-Trichloropropane			5.224		0.090	0.50	
110-57-6	trans-1,4-Dichloro-2-butene		2	20.13		0.33	2.0	
106-46-7	1,4-Dichlorobenzene		5.187		0.030		0.50	
95-50-1	1,2-Dichlorobenzene			5.044	0.030		0.50	
96-12-8	1,2-Dibromo-3-chloropropane	•	4	4.750	0.25		0.50	
540-59-0	1,2-Dichloroethene (total)	,		11.53		0.030	0.50	
1330-20-7	Xylenes (total)			15.69		0.030	0.50	
SURROGA	TE RECOVERY RESULTS	E RECOVERY RESULTS ADDED		CONC (u	g/L)	% REC	QC LIMITS	Q
Dibromofluoro	omethane	ethane 5.00		5.67	3	113	65 - 150	
1,2-Dichloroet	hane-d4	5.00	00	6.24	7	125	59 - 150	
Toluene-d8		5.00	00	4.97	6	100	61 - 145	
Bromofluorobe	enzene	5.00	00	4.83	7	97	63 - 143	



SW 8260B

1R-44817MSD

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Extraction: SW 5030A/5030B File ID: 2122704-MSD171.d QC Type: Matrix Spike Dup

Initial/Final: <u>25mL / 25mL</u> Lab ID: <u>2122704-MSD1</u> Column ID: <u>SPB-624</u>

Dilution: <u>1</u> pH: <u>1</u> Prepared: <u>12/27/12.18:30</u>

% Moisture: <u>NA</u> Analyzed: <u>12/27/12 23:25</u>

CAS NO.	COMPOUND	CONC.(ug/L)	MDL	RL	Q
75-71-8	Dichlorodifluoromethane	6.364	0.030	0.50	
74-87-3	Chloromethane	6.855	0.11	0.50	
75-01-4	Vinyl chloride	6.639	0.070	0.50	
74-83-9	Bromomethane	5.033	0.11	0.50	
75-00-3	Chloroethane	6.141	0.20	0.50	
75-69-4	Trichlorofluoromethane	5.852	0.060	0.50	
75-35-4	1,1-Dichloroethene	5.739	0.040	0.50	
67-64-1	Acetone	30.14	0.44	2.5	
74-88-4	Iodomethane	4.020	0.030	0.50	
75-15-0	Carbon disulfide	6.476	0.020	0.50	
75-09-2	Methylene chloride	6.850	0.020	0.50	
107-13-1	Acrylonitrile	53.00	0.36	5.0	
156-60-5	trans-1,2-Dichloroethene	6.046	0.050	0.50	
75-34-3	1,1-Dichloroethane	6.315	0.020	0.50	
108-05-4	Vinyl acetate	10.69	0.060	1.0	
156-59-2	cis-1,2-Dichloroethene	6.029	0.030	0.50	
78-93-3	2-Butanone	25.54	0.28	2.5	
74-97-5	Bromochloromethane	5.408	0.040	0.50	
67-66-3	Chloroform	6.247	0.030	0.50	
71-55-6	1,1,1-Trichloroethane	6.097	0.020	0.50	
56-23-5	Carbon tetrachloride	5.565	0.030	0.50	
107-06-2	1,2-Dichloroethane	6.084	0.030	0.50	
71-43-2	Benzene	6.051	0.030	0.50	
79-01-6	Trichloroethene	5.627	0.030	0.50	
78-87-5	1,2-Dichloropropane	5.542	0.12	0.50	
74-95-3	Dibromomethane	5.418	0.030	0.50	
75-27-4	Bromodichloromethane	5.970	0.030	0.50	
10061-01-5	cis-1,3-Dichloropropene	5.434	0.040	0.50	
108-10-1	4-Methyl-2-pentanone	20.73	0.42	2.5	
108-88-3	Toluene	5.025	0.030	0.50	
10061-02-6	trans-1,3-Dichloropropene	4.963	0.050	0.50	





1R-44817MSD

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix: Water Extraction: SW 5030A/5030B File ID: 2122704-MSD171.d QC Type: Matrix Spike Dup

Dilution: $\underline{1}$ pH: $\underline{1}$ Prepared: $\underline{12/27/12}$ 18:30

% Moisture: <u>NA</u> Analyzed: <u>12/27/12 23:25</u>

CAS NO.	COMPOUND		CON	VC.(ug/L)		MDL		RL	Q
79-00-5	1,1,2-Trichloroethane		4	4.934		0.040		0.50	
127-18-4	Tetrachloroethene		4	1.693		0.060		0.50	
591-78-6	2-Hexanone			20.27		0.51		2.5	
124-48-1	Dibromochloromethane		4	4.490		0.040		0.50	
106-93-4	1,2-Dibromoethane		4.492			0.040		0.50	
108-90-7	Chlorobenzene		:	5.045		0.020		0.50	
630-20-6	1,1,1,2-Tetrachloroethane		4	1.929		0.020		0.50	
100-41-4	Ethylbenzene			5.220		0.040		0.50	
179601-23-1	n,p-Xylene			10.30		0.080		1.0	
95-47-6	o-Xylene		5.095			0.030		0.50	
100-42-5	Styrene		5.050		0.020			0.50	
75-25-2	Bromoform		3	3.948		0.030		0.50	
79-34-5	1,1,2,2-Tetrachloroethane		4	1.739		0.050		0.50	
96-18-4	1,2,3-Trichloropropane		4	1.954		0.090		0.50	
110-57-6	trans-1,4-Dichloro-2-butene		18.22		0.33			2.0	
106-46-7	1,4-Dichlorobenzene		5.140		0.030			0.50	
95-50-1	1,2-Dichlorobenzene			1.857	0.030			0.50	
96-12-8	1,2-Dibromo-3-chloropropane		4	1.502		0.25		0.50	
540-59-0	1,2-Dichloroethene (total)		1	12.07		0.030		0.50	
1330-20-7	Xylenes (total)		1	15.39		0.030		0.50	
SURROGAT	TE RECOVERY RESULTS ADDI		(ug/L)	CONC (u	g/L)	% REC	EC QC LIMITS		Q
Dibromofluoron	nethane 5.0		00	5.81	5	116		65 - 150	
1,2-Dichloroeth	ane-d4	5.00	00	5.94	9	119		59 - 150	
Toluene-d8		5.00	00	4.82	7	97	97 61 - 145		
Bromofluorobe	nzene	5.00	00	4.84	4	97		63 - 143	





TRACY DODGE

CDM FEDERAL PROGRAMS CORP.

60 Port Blvd., Suite 201

Libby, MT 59923

Subject:

Report of Data - Project: LIBBY ASBESTOS TO-14/6402.DK1.002.S WorkOrder: 1212075

Attn.: TRACY DODGE

Enclosed are the results of analytical work performed in accordance with the referenced account number. This report covers sample(s) appearing on the listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097

Sincerely,

Compuchem

a division of Liberty Analytical Corporation

Attachment

TOTAL NUMBER
OF PAGES _____

CompuChem, a division of Liberty Analytical

Client: CDM FEDERAL PROGRAMS CORP.

Work: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sdg: 1212075

Lab ID	Client ID	Matrix	Date Sampled	Date Received
1212075-01	1R-44817	Water	12/18/2012 13:43	12/21/2012 10:37
1212075-02	1R-44818	Water	12/19/2012 12:59	12/21/2012 10:37
1212075-03	TB-1	Water	12/18/2012 00:00	12/21/2012 10:37
1212075-04	1R-45180	Water	12/20/2012 11:20	12/22/2012 11:24
1212075-05	1R-44819	Water	12/20/2012 11:35	12/22/2012 11:24
1212075-06	TB-2	Water	12/18/2012 00:00	12/22/2012 11:24

ANALYSES DATA PACKAGE COVER PAGE

Client: CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Laboratory: COMPUCHEM

SDG: 1212075

Client Sample Id:	Lab Sample Id:
<u>1R-44817</u>	1212075-01
<u>1R-44817</u>	<u>1212075-01</u>
<u>1R-44818</u>	1212075-02
<u>1R-44818</u>	<u>1212075-02</u>
<u>1R-45180</u>	<u>1212075-04</u>
<u>1R-45180</u>	<u>1212075-04</u>
<u>1R-44819</u>	<u>1212075-05</u>
<u>1R-44819</u>	<u>1212075-05</u>

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the Electronic Data Deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:	Susan W Dass	Name:	Susan Bass	 	
Date:	12/31/2012	Title:	Senior Chemist		
Date.					•





SDG NARRATIVE SDG # 1212075 Client: CDM FEDERAL PROGRAMS CORP. Project: LIBBY ASBESTOS TO-14/6402.DK1002.SAMPL-14 DAY

The 4 liquid samples were received intact, at 0.3 to 1.5°C, with proper documentations, in sealed shipping containers, on December 21 and 22, 2012. The samples were scheduled for the requested analyses of the Wet Chemistry fraction. The samples were analyzed, in accordance with current EPA methods, for the analytes requested as per the COC, with the exceptions and/or additions requested by the client. The calculation for alkalinity carbonate and bicarbonate are located behind the narrative.

SAMPLE IDs:

The cover page contained in this package lists the client ID's and the associated CompuChem numbers which are part of this SDG.

INSTRUMENTAL QUALITY CONTROL:

All calibration verification solutions (ICV & CCV), blanks (ICB, & CCB), associated with this data were confirmed to be within allowable limits.

SAMPLE PREPARATION QUALITY CONTROL:

The sample preparation procedure verifications (LCS & Blank) were found to be within acceptable ranges. The field samples were prepared and analyzed within the contract specified holding times.

MATRIX RELATED QUALITY CONTROL:

1R-44817 (1212075-01) was requested to be used to prepare the matrix spike and matrix spike duplicate. The associated QC was found to be inside control limits.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Furthermore, I certify that the tests used in this report meet all requirements of the NELAC standards unless otherwise stated in the SDG narrative or QA notice. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Susan W. Bass Senior Chemist December 31, 2012

CompuChem

a division of Liberty Analytical Corporation

WET CHEMISTRY DATA REPORTING QUALIFIERS

On the appropriate reporting form, under the column labeled "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. The qualifiers used are:

- U: This flag indicates the compound was analyzed for, not detected and is reported as less than the Method Detection Limit (MDL) (or as defined by the client). The Reporting Limit (RL), or Limit of Quantitation (LOQ), and the MDL will be adjusted to reflect any dilution or concentration of the sample and, for soils, the percent moisture.
- J: This flag indicates the reported result is an estimated value. The flag is used when an analyte is detected and the result is less than the adjusted RL/LOQ but equal to or greater than the MDL.
- Q: This flag denotes that one or more quality control criteria have failed (e.g., LCS recovery, Continuing Calibration Verification, or CCV) and reanalyses can't be performed. The Q flag is applied to all specific analyte(s) in all samples associated with the failed quality control criteria.
- B: This flag is used when the analyte is found in the associated method or calibration blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged B only when they are detected in the sample.
- D: This flag is applied to an analyte when the reported result is based on a dilution.

X/Y/Z: Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y, and Z.

The extensions: D, S, and SD are added to the end of the Client ID and represent the following:

D – Matrix Duplicate

S – Matrix Spike

SD - Matrix Spike Duplicate

Revision 0 (03-15-2011)



CHAIN OF CUSTODY

Sampling Complete? Y or N

501 Madison Ave.

Cary, NC 27513 Phone: 919-379-4100 Fax 919-379-4040

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Compu hem A Division Of Liberty Analytical Corp.

CHAIN OF CUSTODY

Page / of /

501 Madison Ave. Cary, NC 27513 Phone: 919-379-4100 Fax 919-379-4040

Airbill No. 7943 6038 7989
Sampling Complete? Y or N 7943 6130 529

Client/Reporting Information GW Ground water Project Name Com Smith WW - Waste water SW - Surface water Sampling Location SO - Soil/Sediment TB) Trip Blank Turnaround time RI - Rinsate Batch QC or Project Specific? If WP - Wine 1R-44817 O - Other Are aqueous samples field filtered for metals: Y or N Are high concentrations expected? Y or If yes, which ID(s)? pH / Sample Info (Lab Use) Collection Number of Preserved Bottles CompuChem No (Lab Use) Field ID Time Matrix bottles 13:43 GW 36 1R-44817 Lab Use Only Comments Cyanide samples checked for sulfide & chlorinc? Y or NA Sample Unpacked By: Sample Order Entry By: 625 & Phenol samples checked for chlorine? Y or MA Samples Received in Good Condition I'V or N 608 samples checked for pH between 5.0-9.0? Y or NA If no, explain: Date/Time: 12-21-3.00 Received by: Relinguished by: Date/Time: 12/20/12 Relinguished by: Date/Time: Received by: Date/Time: Subcontact? If br N If yes, where? Custody Seal(s) intact? (Y) or N On Ice? Y or N Cooler Temp: Samples stored 60 days after date report mailed at no extra charge. White & Yellow copy to lab . Pink copy for customer

ompu hem Liberty Analytical Corp.

Samples stored 60 days after date report mailed at no extra charge.

CHAIN OF CUSTODY

White & Yellow copy to lab . Pink copy for custome

501 Madison Ave. Cary, NC 27513

Phone: 919-379-4100 Fax 919-379-4040

Sampling Complete? Y or N 7943 6120 524 Client/Reporting Information GW Ground water Project Name COM SMITH WW - Waste water Sampling Location SW - Surface water Address Blud Ste 201 SO - Soil/Sediment TB) Trip Blank RI - Rinsate WP - Wipe Batch QC or Project Specific? If Specific, which Sample JD? O - Other Are aqueous samples field filtered for metals? Y or N Are high concentrations expected? Y or If yes, which ID(s)? pH / Sample Info (Lab Use) Collection Number of Preserved Bottles CompuChem No # of Time | Matrix | bottles (Lab Use) Field ID Date 1R-44817 36 NA 12212 12:59 GW Lab Use Only Sample Unpacked By: Cyanide samples checked for sulfide & chlorine Y or NA Sample Order Entry By: 625 & Phenol samples checked for chlorine? Y or NA Samples Received in Good Condition? 608 samples checked for pH between 5.0-9.0? Y or IFA If no, explain: Sample Custody Relinquished by Date/Time: /2/20/12 13:00 Received by: Date/Time: Relinquished by: Date/Time: Received by Date/Time: Custody Seal(s) intact? Y or N On Ice? Y or N Subcontact? Y or N If yes, where? Cooler Temp:

ompu hem A Division Of Liberty Analytical Corp.

CHAIN OF CUSTODY

501 Madison Ave. Cary, NC 27513

Cary, NC 27513
Phone: 919-379-4100 Fax 919-379-4040

Page / of /

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Liberty Analytical Corp.

CHAIN OF CUSTODY

501 Madison Ave.

Cary, NC 27513 Airbill No. 7943 2394 8532 Phone: 919-379-4100 Fax 919-379-4040 Sampling Complete Y or N

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Samples Received i	n Good Condition?	Y or N		608 sam	ples check	ed for	pH be	tween	5.0-9.	0? Y o	r/A)													
If no, explain:		<u>ノ</u>			:			Sampl	ė Cuet	odu		/	17	\bigcirc					to star					
1 1111 7 11 11 11 11 11 11 11 11 11 11 1	Lellis Hausen	- COM Smets	7	Date/Ti	me: 12	12/1/				 	ived by	:/-	bik		g				Date/		12/2	2/12	_	1124
Relinquished by:	0 0			Date/Ti		7				_	ived by	7	V	_					Date/		-1-			
Subcontact? Y or	N If yes, where? M	ADEPUPH & E	PH+	GOD	TOEN	OD	CAR	Cust	ody S	eal(s)	intact?	Y or 1	N	On Ic	Y					r Temp			0,	3 ℃
	s after date report mails					1	• •								White	& Yello	w copy	y to lab	• Pini	copy f	or cus	tomer		

Compu hem A Division Of Liberty Analytical Corp.

Samples stored 60 days after date report mailed at no extra charge.

CHAIN OF CUSTODY

501 Madison Ave. Cary, NC 27513 Page 1 of 1 Courier Ed - Ex - 7943 7340 6690

White & Yellow copy to lab . Pink copy for customer

Airbill No. 7943 1394 8532 Sampling Complete? Y or N Phone: 919-379-4100 Fax 919-379-4040 Requested Analysis (include method and bottle type) Matrices Client/Reporting Information Project Information GW Ground water Project Name MM Smith WW - Waste water SW - Surface water Sampling Location Address SO - Soil Sediment TB) Trip Blank Turnaround time 59923 RI - Rinsate WP - Wipe Batch QC or Project Specific? If Specific, which Sample ID? O - Other Are aqueous samples field filtered for metals? (Y) or N Are high concentrations expected? Y or No If yes, which ID(s)? pH / Sample Info (Lab Usc) C'ollection Number of Preserved Bottles МЕОН CompuChein No # of Field ID (Lab Use) bottles Time | Matrix 9/2/2 11:20 BW 12 NA 100-size air buhh Lab Use Only Comments Cyanide samples checked for sulfide & chlorine? Y on NA Sample Unpacked By: Sample Order Entry By: 625 & Phenol samples checked for chlorine? Y or NA Samples Received in Good Condition Y or N 608 samples checked for pH between 5.0-9.0? Y or NA If no, explain: Sample Custody Relinquished by Received by: Date/Time: Date/Time: 12/1 Date/Time: Received by: Date/Time: Relinquished by: LY Custody Seal(s) intact? Y or N Cooler Temp: Subcontact? Y or N If yes, where? MADEP VPH On Ice?

Liberty Analytical Corp.

CHAIN OF CUSTODY

501 Madison Ave.

Cary, NC 27513 Phone: 919-379-4100 Fax 919-379-4040 Sampling Complete? Y or N

Page _____ of ____ Courier Fed - Ex - 7943 7340 6690

Cli	tent/Reportin	ig Information	25.90 m/s			Proj	ect Inf	ormati	on		Service Co			Ke	quested	Analysi	s (ınçlu	de metr	iod and	bottle ty	pe)			atrices	
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Project Contact Phyllis Phone #	بالما			Batch QC	or Projec	t Specific	? If Sp	ecific,	which	Samp	le ID?		12 4	12		1. fa	7 (6	0 3			P - Wij - Other	•	
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Sampler's Name	Beau	dain		Are high	concentra	tions expo	cted?	YouN) If y	es, wh	ich ID	(s)?	[A 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000	3000	<u>0</u> ,0	2,0	نا ت	S - 2	2		.1	pH/Sa (La	ample l ib Use)	
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(Lab Use)		Field ID	Date	Time	Matrix		HCI	NaOH	HN03	H2SO4	МЕОН	Other No N	D.5501.	ال ال	300	50	5 M	J/60	アペ	EUL	<u> </u>		· ·		
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Sample Unpacked I	Зу:	Wal Jak			Cyanide	samples c	hecked	for su	lfide &	k chlo	rine? \	or NA)					\			-				
Sample Order Entry	By:	May 1	y		625 & PI	nenol sam	oles ch	ecked	for ch	lorine?	Y 97	NA)		<u> </u>											
Samples Received i	in Good Co	hdixion? Y of N			608 samp	oles check	ed for	pH bet	ween	5.0-9.0	0? Y o	MA)													
If no, explain:	actual disease, we workloss	PERSONAL PROPERTY AND THE SECOND	KAL LASSE XI	Total Services	65 81 A 18 A 8	n market by species		*****	P.Casta	5.776300	euss s		₽ 1. 800 € 100		\bigcirc	Karelija	· ·		111111	12 2 75 51 7		, .		· ·	
Relinquished by	N.00-	Haugen Com.	N		Date/Ti	me: / .2 ,	last.	*********			1	ived by		16		9		<u> </u>	<i>/</i>	Date/	Time: 12/	021	12-	112	4
Relinquished by:	H.	turgen will	your	<u></u>	Date/Ti		<u>#///</u>	<u>-</u>	13	·UU		ived by		~\\\						Date/				1,12	
Subcontact? Y pr	N If yes	where?			1-:				Cust	ody S	 	intact		N	On Io	(?Y)	or N			+	r Temp:	n	, 7		°C
Samples stored 60 day			a charge.	-						- Ly 5	(0)			:	101110			OW COD	v to lab		copy for cu) عبد (stom	ـــــــــ er		

Printed: 12/22/2012 12:52:57PM

1212075

COMPUCHEM

Client: Project Manager: **Cathy Dover** CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA Project Number: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 SDG: 1212075 CASE: Status: Received

Invoice To:

CDM FEDERAL PROGRAMS CORP. CDM FEDERAL PROGRAMS CORP.

TRACY DODGE SUBCONTRACT MANAGER

14420 ALBEMARLE POINT PLACE, SUITE 210 60 Port Blvd., Suite 201

Libby, MT 59923 CHANTILLY, VA 20151

Phone: (406) 293-8595 Phone:-Fax: -Fax: -

Date Due: 01/04/2013 00:00 (13 day TAT)

Report To:

Received By: Date Received: 12/22/2012 11:24 Cathy Dover Logged In By: Date Logged In: 12/21/2012 12:52 Cathy Dover

J & B Flags?: NO TICS?: NO EDD: 68) LATA EXCEL Deliverable: Style 3

Metals ND to? RL/CRQL Spike Level: FULL Spike

USE 1212075-01 FOR QC*VOC 25ML=LIBBY.SUB*6020A MTL=Sb,As,Be,Cd,Pb,Se,Tl*6010C MTL=Ba,Cr,Co,Cu,Fe,Ni,Ag,V & Zn*HG 7470A*NO2/NO3 353.2 IN H2SO4 PRES.CONTAINER*IC300=CHL/SO4*CN 9010C/9012B*GENERATE THE CUSTOM NO MDL REPORT

Analysis	Due	TAT	Expires	Received	Comments
1212075-01 1R-44817 [Water]	Sampled 12/18/2012 13:	43 East	ern	USE F	OR QC
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/04/2013 13:43	12/21/2012 10:37	
6010C DISS. METALS VARIABLE	Invoice 01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
7470A 7471B Mercury	01/04/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/01/2013 13:43	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
6010C METALS	01/04/2013 16:00	13	06/16/2013 13:43	12/21/2012 10:37	
IC 300 Anions	01/04/2013 16:00	13	01/15/2013 13:43	12/21/2012 10:37	
1212075-02 1R-44818 [Water]	Sampled 12/19/2012 12:	59 East	ern		
6010C METALS	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
7470A 7471B Mercury	01/04/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
IC 300 Anions	01/04/2013 16:00	13	01/16/2013 12:59	12/21/2012 10:37	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/05/2013 12:59	12/21/2012 10:37	
6010C DISS. METALS VARIABLE	Invoice 01/04/2013 16:00	13	06/17/2013 12:59	12/21/2012 10:37	
VOA-8260B 25ML	01/04/2013 16:00	13	01/02/2013 12:59	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)

Printed: 12/22/2012 12:52:57PM

1212075

COMPUCHEM

Status:

Client:

CDM FEDERAL PROGRAMS CORP.

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DA

SDG: 1212075

CASE:

Project Manager:

Project Number:

Cathy Dover

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 I

Batched

Analysis	Due	TAT	Expires	Comments	
1212075-03 TB-1 [Water] Sam	pled 12/18/2012 00:00 E	astern		TRIP B	BLK
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 00:00	12/21/2012 10:37	SubList = VOA - LIBBY (12-31-11)
1212075-04 1R-45180 [Water]	Sampled 12/20/2012 11:	20 Foot	APP.		
6010C DISS. METALS VARIABLE	•	20 East 13	06/18/2013 11:20	12/22/2012 11:24	
6010C METALS	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24	
	01/04/2013 16:00		06/18/2013 11:20	12/22/2012 11:24	
6020A ICP MS (UPDATE IV)		13			
7470A 7471B Mercury	01/04/2013 16:00	13	01/17/2013 11:20	12/22/2012 11:24	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/03/2013 11:20	12/22/2012 11:24	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/18/2013 11:20	12/22/2012 11:24	
IC 300 Anions	01/04/2013 16:00	13	01/17/2013 11:20	12/22/2012 11:24	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/06/2013 11:20	12/22/2012 11:24	
VOA-8260B 25ML	01/04/2013 16:00	13	01/03/2013 11:20	12/22/2012 11:24	SubList = VOA - LIBBY (12-31-11)
1212075-05 1R-44819 [Water]	Sampled 12/20/2012 11:	35 Easte	ern		
6010C DISS. METALS VARIABLE	Invoice 01/04/2013 16:00	13 -	06/18/2013 11:35	12/22/2012 11:24	
VOA-8260B 25ML	01/04/2013 16:00	13	01/03/2013 11:35	12/22/2012 11:24	SubList = VOA - LIBBY (12-31-11)
6020A ICP MS (UPDATE IV)	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24	
7470A 7471B Mercury	01/04/2013 16:00	13	01/17/2013 11:35	12/22/2012 11:24	
9010C 9012B CYANIDE	01/04/2013 16:00	13	01/03/2013 11:35	12/22/2012 11:24	
DISS. 6020A ICP MS Invoice	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24	
IC 300 Anions	01/04/2013 16:00	13	01/17/2013 11:35	12/22/2012 11:24	
NITRATE-NITRITE-N 353.2	01/04/2013 16:00	13	02/06/2013 11:35	12/22/2012 11:24	
6010C METALS	01/04/2013 16:00	13	06/18/2013 11:35	12/22/2012 11:24	
					
1212075-06 TB-2 [Water] Sam	-	astern		TRIP E	
VOA-8260B 25ML	01/04/2013 16:00	13	01/01/2013 00:00	12/22/2012 11:24	SubList = VOA - LIBBY (12-31-11)

Extractions Custody Sheet

Batch: 2122803

Status: Batched

Analysis: NITRATE-NITRITE-N 353.2

Lab ld	Client_ld	Received	Container	Extraction	Preservative	Matrix	Due Date	Cust Date
1212075-01 S	1R-44817	12/21/12	3e_250mL Plastic, cool, H2SC	NO PREP	pH<2 H2S04, Cool 4'	Water	1/4/2013 4	
1212075-02 G	1R-44818	12/21/12	3e_250mL Plastic, cool, H2SC	NO PREP	pH<2 H2S04, Cool 4	Water	1/4/2013 4	
1212075-04 G	1R-45180	12/22/12	3e_250mL Plastic, cool, H2SC	NO PREP	pH<2 H2S04, Cool 4'	Water	1/4/2013 4	
1212075-05 G	1R-44819	12/22/12	3e_250mL Plastic, cool, H2SC	NO PREP	pH<2 H2S04, Cool 4	Water	1/4/2013 4	1

Coolm	18/86/11 11:35	Wh	12/08/12 1135
Relinquished By	Date/Time 17 128 (v~ 1340	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinguished By	Date/Time	Received By	 Date/Time

Extractions Custody Sheet

Batch: 2122702

Status: Batched

Analysis: IC 300 Anions

Lab ld	Client_ld	Received	Container	Extraction	Preservative	Matrix	Due Date	Cust Date
1212075-01 P	1R-44817	12/21/12	3b_125mL Plastic, cool	NO PREP	Cool 4°C	Water	1/4/2013 4	
1212075-02 F	1R-44818	12/21/12	3b_125mL Plastic, cool	NO PREP	Cool 4°C	Water	1/4/2013 4	
1212075-04 F	1R-45180	12/22/12	3b_125mL Plastic, cool	NO PREP	Cool 4°C	Water	1/4/2013 4	
1212075-05 F	1R-44819	12/22/12	3b_125mL Plastic, cool	NO PREP	Cool 4°C	Water	1/4/2013 4	
1212076-01 D	MP-02	12/21/12	3d_250mL Plastic, cool	NO PREP	Cool 4°C	Water	1/7/2013 4	
1212076-02 D	MP-01	12/21/12	3d_250mL Plastic, cool	NO PREP	Cool 4°C	Water	1/7/2013 4	
1212076-03 D	MP-01FD	12/21/12	3d_250mL Plastic, cool	NO PREP	Cool 4°C	Water	1/7/2013 4	-
1212076-04 L	IP-01	12/21/12	3d_250mL Plastic, cool	NO PREP	Cool 4°C	Water	1/7/2013 4	-
1212076-05 D	MP-03	12/21/12	3d_250mL Plastic, cool	NO PREP	Cool 4°C	Water	1/7/2013 4	

12/27/12/11:30 12/27/12/11/30 Date/Time Relinquished By Received By Date/Time 1715 Dolm 12/27/2 Received By Date/Time Relinquished By Date/Time 12/20/12 0915 12/28/12 miles" Date/Time Relinquished By Date/Time Received By Coolmi 1540 12/20/m 10 /08/12 1540 Date/Time Relinquished By Date/Time Received By

METHOD DETECTION AND REPORTING LIMITS

Laboratory:

COMPUCHEM

SDG:

1212075

Client:

CDM FEDERAL PROGRAMS CORP.

Project:

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Matrix:

WATER

Instrument:

LACHATC2

Analyte	MDL	RL	Units	Method
Nitrate/Nitrite as N	0.0406	0.05	mg/L	EPA 353.2



METHOD DETECTION AND REPORTING LIMITS

Laboratory:

COMPUCHEM

SDG:

1212075

Client:

CDM FEDERAL PROGRAMS CORP.

Project:

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

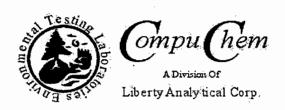
Matrix:

WATER

Instrument:

Omnion Prime

Analyte	MDL	RL	Units	Method
Chloride	0.14	1.00	mg/L	EPA 300.0
Sulfate as SO4	0.0602	1.00	mg/L	EPA 300.0



1R-44817

Client:

CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project:

Lab ID: 1212075-01

% Solid:

Matrix:

Sampled:

Received:

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride		0.140	1.00	1		EPA 300.0	2L28003	12/27/12 16:04
14808-79-8	Sulfate as SO4	5.41	0.0602	1.00	. 1		EPA 300.0	2L28003	12/27/12 16:04
NO2NO3	Nitrate/Nitrite as N		0.0406	0.0500	1	U	EPA 353.2	2L28016	12/28/12 12:39



1R-44818

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project:

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 1212075-02

% Solid:

Matrix:

Water

Sampled: 12/19/12

Received:

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride		0.140	1.00	1		EPA 300.0	2L28003	12/27/12 16:52
14808-79-8	Sulfate as SO4		0.0602	1.00	1		EPA 300.0	2L28003	12/27/12 16:52
NO2NO3	Nitrate/Nitrite as N		0.0406	0.0500	1	U	EPA 353.2	2L28016	12/28/12 12:43



Water

1R-45180

CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 1212075-04

% Solid:

Matrix:

Sampled: 12/20/12

Received: 12/22/12

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q_	Method	Sequence	Analyzed
16887-00-6	Chloride		0.140	1.00	1		EPA 300.0	2L28003	12/27/12 17:08
14808-79-8	Sulfate as SO4	6.09	0.0602	1.00	1		EPA 300.0	2L28003	12/27/12 17:08
NO2NO3	Nitrate/Nitrite as N		0.0406	0.0500	1		EPA 353.2	2L28016	12/28/12 12:44



1R-44819

Client: CDM FEDERAL PROGRAMS CORP. SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 1212075-05 % Solid: Matrix: Water Sampled: 12/20/12 Received: 12/22/12

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride		0.140	1.00	1		EPA 300.0	2L28003	12/27/12 17:24
14808-79-8	Sulfate as SO4	6.06	0.0602	1.00	1		EPA 300.0	2L28003	12/27/12 17:24
NO2NO3	Nitrate/Nitrite as N		0.0406	0.0500	1	U	EPA 353.2	2L28016	12/28/12 12:45



MB

Client: C

CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: <u>LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY</u>

Lab ID: 2122702-BLK1

Matrix: Water

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride		0.140	1.00	1	J	EPA 300.0	2L28003	12/27/12 15:31
14808-79-8	Sulfate as SO4		0.0602	1.00	1	J	EPA 300.0	2L28003	12/27/12 15:31



LCS

Client:

CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122702-BS1

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride	29.6	0.140	1.00	1		EPA 300.0	2L28003	12/27/12 15:48
14808-79-8	Sulfate as SO4	59.8	0.0602	1.00	1		EPA 300.0	2L28003	12/27/12 15:48



1R-44817MS

Client:

CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: <u>LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY</u>

Lab ID: 2122702-MS1

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride	30.8	0.140	1.00	1		EPA 300.0	2L28003	12/27/12 16:20
14808-79-8	Sulfate as SO4	65.5	0.0602	1.00	1		EPA 300.0	2L28003	12/27/12 16:20



1R-44817MSD

Client: CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: <u>2122702-MSD1</u>

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
16887-00-6	Chloride	30.3	0.140	1.00	1		EPA 300.0	2L28003	12/27/12 16:36
14808-79-8	Sulfate as SO4	65.2	0.0602	1.00	1		EPA 300.0	2L28003	12/27/12 16:36



MB

Client:

CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122803-BLK1

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
NO2NO3	Nitrate/Nitrite as N		0.0406	0.0500	1	U	EPA 353.2	2L28016	12/28/12 12:37



LCS

Client:

CDM FEDERAL PROGRAMS CORP.

SDG: <u>1212075</u>

Project:

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122803-BS1

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
NO2NO3	Nitrate/Nitrite as N	1.58	0.0406	0.0500	1		EPA 353.2	2L28016	12/28/12 12:38



1R-44817MS

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY Project:

Lab ID: 2122803-MS1

CA	S NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
NO)2NO3	Nitrate/Nitrite as N	1.04	0.0406	0.0500	1		EPA 353.2	2L28016	12/28/12 12:40



1R-44817MSD

Client:

CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122803-MSD1

CAS NO.	Analyte	Conc. (mg/L)	MDL	RL	D.F.	Q	Method	Sequence	Analyzed
NO2NO3	Nitrate/Nitrite as N	1.08	0.0406	0.0500	1		EPA 353.2	2L28016	12/28/12 12:42



PREPARATION BATCH SUMMARY

EPA 300.0

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Batch: 2122702

Matrix: Water

Preparation: NO PREP

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
1R-44817	1212075-01	12/27/12 12:34	10.0	10.0
1R-44818	1212075-02	12/27/12 12:34	10.0	10.0
1R-45180	1212075-04	12/27/12 12:34	10.0	10.0
1R-44819	1212075-05	12/27/12 12:34	10.0	10.0
МВ	2122702-BLK1	12/27/12 12:34	10.0	10.0
LCS	2122702-BS1	12/27/12 12:34	10.0	10.0
1R-44817MS	2122702-MS1	12/27/12 12:34	10.0	10.0
1R-44817MSD	2122702-MSD1	12/27/12 12:34	10.0	10.0



PREPARATION BATCH SUMMARY

EPA 353.2

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402,DK1.002.SAMPL-14 DAY

Batch: 2122803

Matrix: Water

Preparation: NO PREP

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL/WT (mL)	FINAL VOL/WT (mL)
1R-44817	1212075-01	12/28/12 12:24	1.00	1.00
1R-44818	1212075-02	12/28/12 12:24	1.00	1.00
1R-45180	1212075-04	12/28/12 12:24	1.00	1.00
1R-44819	1212075-05	12/28/12 12:24	1.00	1.00
MB	2122803-BLK1	12/28/12 12:24	1.00	1.00
LCS	2122803-BS1	12/28/12 12:24	1.00	1.00
1R-44817MS	2122803-MS1	12/28/12 12:24	1.00	1.00
1R-44817MSD	2122803-MSD1	12/28/12 12:24	1,00	1.00



MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 300.0

1R-44817MS

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122702-MS1

% Solid: NA

Matrix: Water

Lab Source ID: 1212075-01

Source Sample: <u>1R-44817</u>

ANALYTE	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC.	Q	QC LIMITS REC.
Chloride	30.00	0.588 Ј	30.8	101		90 - 110
Sulfate as SO4	60.00	5.41	65.5	100		90 - 110

	SPIKE ADDED	MSD CONCENTRATION	MSD %	%		QC	LIMITS
ANALYTE	(mg/L)	(mg/L)	REC.#	RPD	γ .	RPD	REC.
Chloride	30.00	30.3	99	2		20	90 - 110
Sulfate as SO4	60.00	65.2	100	0.5		20	90 - 110



MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 353.2

1R-44817MS

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: 2122803-MS1

% Solid: NA

Matrix: Water

Lab Source ID: <u>1212075-01</u>

Source Sample: <u>1R-44817</u>

ANALYTE	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC.	Q	QC LIMITS REC.
Nitrate/Nitrite as N	1.000	0.0500 U	1.04	104		90 - 110

	SPIKE	MSD	MSD			QC	LIMITS
ANALYTE	ADDED (mg/L)	CONCENTRATION (mg/L)	% REC. #	% RPD	Q	RPD	REC.
Nitrate/Nitrite as N	1.000	1,08	108	4.06		20	90 - 110



LCS / LCS DUPLICATE RECOVERY

EPA 300.0

SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: <u>2122702-BS1</u>

Matrix: Water

Client ID: LCS

Batch: 2122702

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	Q	QC LIMITS REC.
Chloride	30.00	29.6	99		90 - 110
Sulfate as SO4	60.00	59.8	100		90 - 110



LCS / LCS DUPLICATE RECOVERY

EPA 353.2

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075 Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Lab ID: <u>2122803-BS1</u>

Matrix: Water

Client ID: LCS

Batch: 2122803

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	Q	QC LIMITS REC.
Nitrate/Nitrite as N	1.500	1.58	105		90 - 110



BLANKS

EPA 300.0

Client: CDM FEDERAL PROGRAMS CORP.

SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L28003

Instrument ID: Omnion Prime

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2L28003-ICB1	Chloride	0.147	0.140	1.00	mg/L	J	EPA 300.0
ICB	2L28003-ICB1	Sulfate as SO4	0.0580	0.0602	1.00	mg/L	U	EPA 300.0
ССВ	2L28003-CCB1	Chloride	0.141	0.140	1.00	mg/L	J	EPA 300.0
ССВ	2L28003-CCB1	Sulfate as SO4	0.0589	0.0602	1.00	mg/L	U	EPA 300.0
МВ	2122702-BLK1	Chloride		0.140	1.00	mg/L	U	EPA 300.0
MB	2122702-BLK1	Sulfate as SO4		0.0602	1.00	mg/L	U	EPA 300.0
ССВ	2L28003-CCB2	Chloride	0.141	0.140	1.00	mg/L	J	EPA 300.0
ССВ	2L28003-CCB2	Sulfate as SO4	0.0607	0.0602	1.00	mg/L	J	EPA 300.0



BLANKS

EPA 353.2

Client: CDM FEDERAL PROGRAMS CORP.

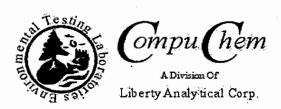
SDG: 1212075

Project: LIBBY ASBESTOS TO-14/6402.DK1.002.SAMPL-14 DAY

Sequence: 2L28016

Instrument ID: <u>LACHATC2</u>

Client ID	Lab Sample ID	Analyte	Found	MDL	RL	Units	Q	Method
ICB	2L28016-ICB1	Nitrate/Nitrite :	-0.0388	0.0406	0.0500	mg/L	U	EPA 353.2
ССВ	2L28016-CCB1	Nitrate/Nitrite a	-0.0451	0.0406	0.0500	mg/L	J	EPA 353.2
МВ	2122803-BLK1	Nitrate/Nitrite :	_	0.0406	0.0500	mg/L	U	EPA 353.2
ССВ	2L28016-CCB2	Nitrate/Nitrite a	-0.0384	0.0406	0.0500	mg/L	U	EPA 353.2



Appendix C

: ::::::::::::::::::::::::::::::::::::	incoln county Landfill LyBook #168316
G	counderstor well monitoring Event 12-18-12
•	Weather 25 r dunny. Activity Blangual Ground Water
	sample at Incoln county Land Cill. All actimbre
	performed IAW Lincoln County class IV
	Assesses Land III operations plan Feb 2008. Rev 2
	com Sop 1- 6 com 50/45
	0553 K Beauloin o A. V. S. Wilson (Com Smith
	on-site, 09/3 com-mw-07 & com-mw-08 have
•	been opened to equilize . 0943 Gaused the
	wells. Described Probe before + After use.
; r	
	THE TANKE THE TANK TH
•	mw-7 1219.93 273 277
i 1	mw-8 226.92 271 240
ţ.	set up on Mar. 7. Equipment has been calibrated
1	YSE PH 7.0 4.0,100. Cond 1.413. ORP 240mg. DO
•	100%. Hach Turb weter Calibrate of by prize Enu. to 20, 100, +80007
>	
	1100 sterical to page mont. As work entered Flow through
	cell it became evident that the Flowsthong cell was leaking
L	air. Cell was missing a sasket 1115 off-see, 1238 09-3
	Replaced Gasket, started To page. Flow < 12/mi
	Reference the watter somply log for more detail.
	CON TO US ASSESSED.
	Reference FSDS # W - 100/84. Collected semple of M5/MSD @ 1428
	Deconned equipment. Cleaned up sile closed
	wals 1445 off site 1530 Relinguished samples
	to compath simple courses from for analysis.
	26 3 12-16-12
1 /	13.2

Lucolu County Cond fill Logbook 10/3/0.
12-19-12 Grandwater sampling eventet the Lincoln County Lond fill All Actibities performed RAW Lincoln county class III Asbestus Load I operations Plan Feb 2008 Revision 2 COM Smith Sop 1-4,504.5. 190 F. Cloudy. 0903 K. Beandon + S. Wilson (Both (DM Smith) on-ste 0920 opened wells to equilize. well ID | DTW 0950 Gauged wells. MW-7 220.09 mw-8 1227.04 Probe Decorned with accomox before & Afes 1000 set up on MW-8. Decenned Primp before or after each use. Started Puging water. After pumping ~ 1/2 sol pump stopped workig. Removed pump from the well of set asite. Decented the second grantes pump or installed If of proced in well. sump would not bring water to the surface. 1125 off site 1158 on-site with adultional tubing. Attempted to have pump in the well. pump only west down -5' More Attempted to purge water Pump Would not Purpo water. Stopped proced 1/2 Removed Dung From the well.

racoln County Load Bll Log Book 101310 12-19-12. Biannal Groundmeter sampling Event at Lincoln Gunty Landfill. 22 of Mostly Cloudy. All Activities performed I AW Lincoln county Leader V aperations plan Feb 2005 Key. 2 com Com sall SA 465045 K Beaudin + S. Wilson 1259 collected the Field Blank. Reference FSDS # 100291 The team measured to tubiz we have 2 240 of tenting of history should be in the water column- Deconned pumps. used And Actorios to Decom tubig as it's placed 12 Plewell Started to pupe water Filled 1/2 Flow through Edil then pump stopped 200/K. a Removed Prop. From well. Deconnes o affempted set iside. Pump has a 3 sec overload family. Decomed or sent the second print four the well. No water being prosped. Removed proportion well. 1405 16. Beautain fell inter a sink hole off the Brick of the Evell- 1410 Attempted the collect sample again placed pumpin well Grand for wires Bruke when installs pund Lost contall while Lowers Pulled puppe deconned equipment. 1530 off-sile 1545 Relingwished Smaples to com smills coordantes for an 17815.

Lincoln County Landfill Log Book # 101316 12-20-12. Branual Groundwater sampling event at Lincoln County Land LIN. All Activities performed IAW Lincoln County class II Can I'll aperations Plan Feb 2008 Rev 2 com smith sopt-6 Sop 4.5 26°F overcast Mod Snowfall 0800 K. Beardon con south calibrated the YSI 55C PH: 4.0, 7.0, 10.0. Cond: 1.413 mc/cm. ORP: 240 nu TDO: 100%. 0958 ON-Side K. Decudomy S. Wilsonson, + S. Felton committee set up on mw -8. Decorned equipment Gauged mw-8. DTW 226.96 Installed pump + started purgry the well. Pump is working, 1025 started to collect parameters. Reference the water Brankley los for defalls Reference FSDS# W-100004- 1195 Sample + Oup collected cleaned up the sit secured well. 1154 off Ste The sink hole on mu-8 should be Reposed SIAK hole & located on the Back of the concrete well Park tree 1 + Hole 15 2 3-4. Surfere water may be o imposely from water. 1230 Relinguistes samples to comsmit sample conduction for anelysts.

WATER SAMPLING LO	WA	TER	SA	MP	LIN	G	LOG
-------------------	----	------------	----	----	-----	---	-----

Project/No. 90637. 6421. 002. 0629 R1044 Page 1 of 2
Site Location Lincoln County Landbill
Site/Well No. CDMMW-OF Coded/ Replicate No. Date 12-18-12
Weather 25°F Mostly Sumy Time Sampling Began 1342 Time Sampling Completed 1428
EVACUATION DATA
Description of Measuring Point (MP) Top of PVC
Height of MP Above/Below Land Surface 15" MP Elevation 2422./0
Total Sounded Depth of Well Below MP 219.93 Water-Level Elevation 2202,17
Depth to Water Below MP 219.93 Diameter of Casing 4"
Water Column in Well 51.77 Gallons Pumped/Bailed ~5
Gallons per Foot 0.65
Gallons in Well 33.65 Sampling Pump Intake Setting (feet below land surface) 2.255
vacuation Method Low flow Via Grundfos Pump
FINAL FIELD PARAMETERS/SAMPLING DATA
Color None Odor None Appearance Clear Temperature 12.24 %
Other (specific ion; OVA; HNU; etc.)
Cond. 0,312 mS/cm pH 7.87 D.O. 0.97 mg/L ORP -83.5 mV Turb. 5.24 NTU
Sampling Method and Material Grandfos Pump/Lowflow
Container Description Constituents Sampled From Lab <u>⊀</u> or CDM Preservative
See Attached Table
Remarks
mpling Personnel K. Beaudon (com smith), & S. Wilson (com-smith)
WELL CASING DIAMETERS AND VOLUMES 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

FIELD PARAMETER LOG

Site/Well No. CPM-MW-07

Time	Volume Removed (gal)	Water Level (ft)	Turbity (NTU)	Clarity/ Color	Temp (°C)	рН	Cond. (mS/cm)	D.O. (mg/L)	ORP (mV)	Remarks
244	< 1	£20.5	12.5	Clear	8.57	8.10	0.281	8.51-	-47.4	~ 0.5 4min
249	.25	220.05	10.0	Clear	8.97	8.02	0.284	6.09	60.6	
254	150									
359	:75	220.15	925	Clear	9.99	7.91	0.294	2.54	-68.9	,
304				clear						
1309				Clear	10.10	7.89	0.294	1.85	75.1	-75.1
1314	2.5	220.17		clear	10.90	7.88	0.300	1.58	-75.7	
319			7.22			_	<u> </u>			
324			6.71	Ţ			0.307		†	
329	3.5	220.17	6.24	Clear	11.80	7.88	0.308	1.14	-79.9	
334))]	alex		+				,
339		20.17	5.24	aces			0.3/2	0.97	-83.5	
343	Co	llec	ted	59.	nole	_				
									-	
							Tributa and the second			
·						T	12			
on paragraphical residence		- vol. (1994) de de propriet e les épositios e respe	- supplieting to an interest of the part of the format of	4			1			
								18-1	2	
							12-1	<u> </u>		
								Market and the second s		

WATE	R SAMPLING LOG
Project/No. 90637. 6421.062.0029R1044	Page 1 of 2
Site Location Lincoln county Landfull Coded/	
Site/Well No. Com-mw-08 Replicate No.	Date 12-20-12
Weather 260 F mod/Heavy Snuc Began 1/20	Time Sampling Completed
EVACUATION DATA	
Description of Measuring Point (MP) Top of PVC	
Height of MP Above/Below Land Surface 15" MP Elevation 2	414.63
Total Sounded Depth of Well Below MP 240 Water-Level Elevation	2187.67
Depth to Water Below MP 226.96 Diameter of Casing	47
Water Column in Well 13 04 Gallons Pumped/Bail	ed ~/0
O. 65 Gallons per Foot 8. 98 12-20-72	
Gallons in Well 8.48 (feet below land surface)	
vacuation Method Low flow Via Grand for Pump	(ac)
FINAL FIELD PARAMETERS/SAMPLING DATA	, ·
	11.42
	emperature 16.92 °F/C
Other (specific ion; OVA; HNU; etc.)	
Cond. 0.412 mS/cm pH 7. 69 D.O. 3.73 mg/L ORP -27.	1 mV Turb. 9.83 NTU
Sampling Method and Material Grundfos pump Lowflow	
Container Description	
Constituents Sampled From Lab or CDM	Preservative
see Attached Table	
Remarks	<u> </u>
mpling Personnel K. Beaudon Com Suith	
WELL CASING DIAMETERS AND VOLUMES	
1-1/4" = 0.06 $2" = 0.16$ $3" = 0.37$ $1-1/2" = 0.09$ $2-1/2" = 0.26$ $3-1/2" = 0.50$	4" = 0.65

FIELD PARAMETER LOG

Site Location Lincoln County Landfill

Page 2 of 2

Site/Well No. CDM-MW-08

Time	Volume Removed (gal)	Water Level (ft)	Turbity (NTU)	Clarity/ Color	Temp (°C)	рН	Cond. (mS/cm)	D.O. (mg/L)	ORP (mV)	Remarks
1088	0.25	226.92	42.5	clew	7.33	7.46	0.320	9.87	3,0	<0.54m
1033	0.5	224.52	70.0	clear	8.29	7.52	0.330	6.24	714.2	
1030			59.0	Tan	15.30	7.58	0.398	4.04.	31.8	<u>-</u>
1043			47.3	Tun	5.77	٥.62	0402	3.99	32,1	
1048	4.5		38.0			1000	0.394		1	
10.21	5	226.4	30.2	Tan/clev	14.54	7.66	0.388	4.11	-27.8	
10 11			25.2	clear	15,2	7. lela	0.397	3.97	-26.2	
1103	0 -	226. 96		clear	14.63	7.67	0.410	3.70	-27.0	
HOY			7.8		 	 	0.418	+	 /-	
MIZ			·	<u> </u>			0.416	- 		
1/(2	10	24		ļ <u>.</u>	 	 	0.412	3.73	-27.	
112)	Coll	e cto	d s	am	ple	,		-	
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			A	12		The second second				
				0	-					
				1	-2	6	1/2	<u>.</u>		
				10		1				
			-				-			
nose e e	Ì					1				

Event ID LCLO20 108

Libby Water Sample & Location Field Sample Data Sheet

FSDS # W - 100184

Address Lincoln County

Landfill

____ Date 12-18-12 ____ Sampler(s)= K. Beaudoij Swilson perty ID: AD-000/96 Logbook #1013/0 Pgs 11

	Data Item		2 3 7 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	ng ga ang ang ang ang ang ang ang ang an
*	Location ID	SP-113801	」。正式、175%。51 特別機構 ▲ 特別等等等等。 经基础管理	Lessonesias Addition Lessons St. The Control
*	Is this a new Location	Yes No. Revised (If No. "Z" through location section)	Yes No Revised (If No, "Z" through location section)	Yes No Revised (If No, "Z" through location section)
*	Location Type	(W.M.), 2 William Boullett Boullett	in No. 2 through received	(1.116) = 1.116191.166191.
: *: ::	Location Description			
	Location Area (ft ²)	13		
	Location Comment	12-18-12		
	Location Comment 2		·	
*	Sample ID	1R- 44817		
·	Sample Time	1343		100
*	Sample ABS	Ø Y	N Y	N Y
*	Sample Venue	Indoor Quidoo r NA	Indoor Outdoor NA	Indoor Outdoor NA
•	Sample PrePostClear	Pre Post Clear: 1 st 2 nd 3 rd 4 th 5 th 6 th 7 th	NA Pre Post Clear: 1 st 2 nd 3 rd 4 th 5 th 6 th 7 th	NA Pre Post Clear 1 st 27 ^d 3 4 th 5 6 7 th
*	Sample Type	FS FD FB Other	FS FD FB Other	FS FD FB Other
	Sample Parent ID			
*	Composite	Y 99	Y	Υ . Ν
*	Sample Aliquots	O OFF NA	0 Other	0 Other
	Sample Location Description	CDM-MW-07		
	Sample Field Comments	ms/msd	1	

V 120120

Address Lincoln County Landfill

Date 12-/9-/2

perty ID: AD-00019 (o Logbook # 16/3/6 Pgs 12~13 Sampler(s)** K. Beaudows, S. Wilson

			and the second s	er engels engels engels engels engels engels engels engels en engels en engels en engels en en engels en en en					
12.4	Data Item	<u> 1909, Nadanjara J</u> agažan d <u>ojš</u> iauj <u>a</u>		S. W. S. William 3 (27)					
*	Location ID	AD-00996							
*	Is this a new Location	Yes No Revised (If No, "Z" through location section)	Yes No Revised (If No, "Z" through location section)	Yes No Revised (If No, "Z" through location section)					
*	Location Type	7							
*	Location Description								
	Location Area (ft ²)	dB-							
	Location Comment	12-19-12							
	Location Comment 2			<i></i>					
	Sample ID	1R- 44818	1R- 44819	1R- 45180					
	Sample Time	1259							
*	Sample ABS	✓ Y	N /	N Y					
*	Sample Venue	Indoor <u>Outdoo</u> NA	Indoor Outdoor N	ndoor Outdoor NA					
*	Sample PrePostClear	Pre Post Clear: 1 st 2 nd 3 rd 4 th 5 th 6 th 7 th	NA Pre Post Clear: 1 st 2 nd 3 rd 4 th 5 th 6 th 7 th	NA Pre Post Clear: 1 st 2 nd 3 rd 4 th 5 th 6 th 7 th					
*	Sample Type	FB Other	FS FD FB Other	FS FD FB Other					
	Sample Parent ID			(-19-1)					
*	Composite	Y	Y / N ' U	Y N					
•	Sample Aliquots	0 Other 14	0 Other	0 Other					
	Sample Location Description	Field Blank							
	Sample Field Comments								

1141	/ 120120 *Required Field ***List company after Sampler(s) if not "CDM Smith"								

V 120120

For Field Team Completion: Completed by QC by



For Data Entry

Charge # 1 C C O 2 O) O 8
Event ID

Libby Water Sample & Location Field Sample Data Sheet

FSDS # W - 100004

Address Lincoln County Address Lincoln County Land VIII Date 12-20-1
Property ID AD-000196 Logbook # 10/3/0 Pgs 14 Sampler(s) 14. Beauty, 3. UIS

Data Item SP-113799 Location ID (No Revised Yes No Revised Yes No Revised Is this a new Location *If No, go to Visible Vermiculite *If No, go to Visible Vermiculite *If No, go to Visible Vermiculite Location Type Location Description Location Area (ft²) **Location Comment** IR-4580 1R-44819 Sample ID Sample Time 1135 1/20 Sample Venue Indoor Outdoor Indoor Outdoor NA Indoor Outdoor < NA Pre Post AR) Post Pre Sample PrePostClear 4th 5th 6th 7th Clear: 1st 2nd 3rd 4th 5th 6th 7th Clear: 1st 2nd 3rd 4th 5th 6th 7th Clear: 1st 2nd Other FS Sample Type FD Other Sample Parent ID W Y Y N Composite Y/N Sample/Inspection Other 🖊 🕹 Other 1 30 30 Other Aliquots Dup-1-COM-MW-8 Sample Location CDM-MW-08 Description Sample Field Comments

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